Gleanings in Bee Culture

VOL. XXXVIII NOVEMBER 1, 1910 NO. 21

Gleanings in Bee Culture

For 1910-11

This is a busy world full of busy people. It is impossible to read all the good literature that is published on bees, to say nothing about the general literature on other subjects. In order to help out those who are cramped for time we are entering upon a new department in journalism by introducing what we call —

Moving Pictures of Prominent Bee-men at Work

These will consist of a series of photographs showing some of the best apiarists in the country at work among their bees. Each little step and their manner of handling from the time of putting the bees into winter quarters to the time of taking off the crop the following season, will be shown. Each of these separate poses is numbered consecutively, and all the busy reader will have to do is to take a rapid glance at these pictures. Then, if he is interested and desires to know more about it, he can read the descriptive matter that goes with the pictures.

How these Moving Pictures were Obtained

We sent a special representative, equipped with the finest Graflex curtain-shutter camera with an imported lens, to the apiaries of two or three of the prominent bee-keepers. A series of photographs were taken at each of their yards. For example, we have something like one hundred different pictures showing **E. D. Townsend among his bees,** and just how he performs some of the tricks of the trade, that it is practically impossible to describe on a printed page. We also have something like one hundred photographs showing that prince of fancy comb-honey production, **Mr. S. D. House, among his bees.** While he could write a volume telling how he produces fancy comb honey, nothing would begin to show just how he proceeds so well as a series of pictures, showing each successive step. Besides all this, Mr. House will be shown in the act of performing other tricks of the trade.

Irving Kenyon, one of Mr. House's pupils, will also show a scheme for screening a honey-house; how to open the screen door when the hands and arms are loaded down with supers or hives.

Mr. E. M. Gibson, of Jamul, Cal., and O. B. Metcalfe, of Mesilla Park, N. M., will also furnish us moving pictures of their work among their bees.

Besides these special illustrated articles we shall have the usual grist of general bee-matter departments and other ordinary illustrated matter, all of which will make Gleanings for the coming year the brightest and best it has ever been.

Our Special Inducements

To get old subscribers to renew early, so as not to have any lapse in their journals we will make this special offer, to send half a pound of yellow-sweet-clover seed, *Melilotus indica*, postpaid. Do not forget that in order to get this seed **free you must send $1.00 before your subscription expires.**

To encourage old subscribers to secure new ones we will send a one-pound package postpaid, of this yellow-sweet-clover seed to every one who will send us $1.00 for a new subscriber.

Yellow Sweet Clover (Melilotus Indica). What is It?

This we believe is a very remarkable honey-plant. We have been fortunate, we believe, in securing all the seed that is obtainable in the United States, and **we now have on hand something like a carload.** The yellow sweet clover that we have to offer has all the appearance, so far as leaf and blossom are concerned, of the white clover, *Melilotus alba*, except that the plants do not grow quite so tall and that the blossoms are yellow. **It is an annual, grows readily from seed, and blooms the first season and much earlier than the other variety of yellow sweet clover, *Melilotus officinalis*, and much earlier** than the ordinary white sweet clover. It is, therefore, a very valuable forage plant to introduce. Sweet clover, whether yellow or white, is coming to be recognized by prominent agriculturists all over the country as being most valuable for stock, almost the equal of alfalfa. It has the advantage over alfalfa that it will grow anywhere; and after it has inoculated the soil it will then be possible to grow alfalfa **or anything else.**

Do Not Delay Ordering

While we obtained a large quantity of seed, do not make the mistake of waiting too long; for by the time our subscription season fully opens up we expect to be swamped with orders.

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Gleanings in Bee Culture

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Editorial

The new revised "Advanced Bee Culture," by W. Z. Hutchinson, will be worth reading. It will contain some of the author's very latest ideas on bee culture.

Dr. Miller's Stray Straws will be conspicuous by their absence in this issue. At this writing they have not yet arrived. Whether the mails are at fault or Dr. Miller is sick we can not say.

WHAT TO DO WITH BROKEN OR OTHERWISE UNSALABLE COMB HONEY.

Those who do a business of putting up honey in tumblers or large-mouthed bottles will find it will pay them well to take all their broken or unsalable comb honey, cut it up into suitable-sized chunks, and put them in tumblers of nice extracted honey. There was a time when the public was a little suspicious of honey in this form; but since the national pure-food laws have gone into effect, the bottler will find a ready sale for chunk honey in tumblers.

A BEE-BOOK FOR FARMERS.

The second edition of the "Pearce Method of Bee-keeping," by Joseph A. Pearce, of Grand Rapids, Mich., has been issued. The price is not stated, but we should judge it is 25 cts. The Pearce method is a plan for the production of either comb or extracted honey for the farmer, professional man, or any other man who has not time to look after swarming or to fuss with the bees. We believe the general details of the plan are good. Further particulars can be obtained by writing to the author. Send orders to Mr. Pearce and not to us.

THE NATIONAL CONVENTION AT ALBANY.

From the report in this issue on page 697, given by our special representative, Mr. W. A. Selser, at the National convention at Albany, we judge there was not only a good attendance but a good meeting. We regret very much that it was impossible for a member of our editorial staff to be present to enjoy the feast of good things that were evidently spread before the bee-keepers.

We expect to show a large photo, in our next issue, of the whole convention assembled on the steps of the capitol building. There are some faces in it that some of our convention-goers will, perhaps, recognize.

PROPER ARRANGEMENT OF THE COMBS FORMING THE WINTER-NEST.

Each spring brings its list of letters from bee-keepers whose bees died, leaving plenty of honey in the hives. There are many reasons for this; for instance, the honey may not be in the right place as far as the location of the cluster is concerned. Mr. Bain has been going through our yards, making sure that the winter-nest is arranged right. A honey-producer who has not handled his combs very much through the season is not likely to find that the bees have arranged their nest wrong, and it is likely that feeding will be all that his colonies will need if there are not stores enough. If the combs have been handled considerably, however, so that they are disarranged, it will be necessary to look them over to be sure that they are in the right place. The combs in the central part of the cluster should contain some honey in the upper part, but should not be filled solid. On either side there should be enough full combs of honey to last the bees through the winter. Care should be taken to see that no empty comb separates the honey from the cluster. The only colony that Mr. Bain lost in the home yard, last year, was one where he had overlooked a frame of foundation that separated the honey from the bees. On account of the continued cold the bees really starved because they could not go around that foundation to get the honey on the other side.

If feeding be done in September, especially with an Alexander feeder, the bees arrange the honey in a way that can not be improved upon. It is a good plan to feed in the fall when colonies are short of stores, reserving the combs of honey that may be on hand to use in the spring. Ordinarily, the beginner had better not feed syrup in the spring except under special circumstances, but combs of honey are always safe.

WHY WE ARE OPTIMISTIC.

We ought to be thankful this year that we have no honey-dew in the hives for this winter. Last year there was a large amount of honey-dew to fear for this winter. A

year ago there was a large amount of honey-dew in the hives, in nearly all sections of the country, and it was naturally expected that there would be a heavy mortality as a consequence, and there was in some localities where the stores were nearly all honey-dew. But, fortunately, this year the winter stores are either sugar syrup or the very finest well-ripened honey.

Another fact that adds a little to our optimism is the very heavy mat of clover that seems to be growing everywhere. The drouth that set in during the latter part of the summer did not seem to affect the clovers. In most localities clover seems to be abundant—at least that is the report. If it does not winter-kill, clover will be very much in evidence next year.

Still again, prices on honey never showed a better upward tendency than now. We see no reason why they shall not continue to go up. The general advance in other things will compel this.

TOWNSEND'S NEW BEE-BOOK.

TOWNSEND'S new bee-book we hope to have ready for delivery very soon now. This will be about the size of Alexander's and Doolittle's books. We will furnish this work and a year's subscription to either new or old subscribers for the price of GLEANINGS alone — $1.00; but in the case of old subscribers the cash must accompany the order *before* the subscription expires. We can not afford to make this liberal offer to those who allow their subscriptions to get in arrears.

In this connection it is proper to say that Mr. Townsend is one of the most progressive, most successful, and one of the most extensive bee-keepers in the United States. If any man knows how to give instructions that will lead to success in our chosen pursuit, Mr. Townsend is that man. While the book is written especially for beginners, it has so much of value in it for the veteran that the old-timers will find profit in reading it as well as those who are just making a start.

IS IT POSSIBLE TO WINTER MORE THAN ONE QUEEN IN A HIVE?

WE are getting some inquiries asking if it is possible to winter ten or a dozen queens over one brood-nest, the idea being, of course, to keep a surplus so that, when one dies in any one of the colonies, another from the surplus in hand can supply the deficiency. Again, it often happens that a queen-breeder wishes to keep over a surplus stock of queens so he can fill orders, not only early next spring, but all winter when the weather permits.

We know of no *reliable* method by which this can be done. Ordinary mailing-cages of queens, of course, can be set on the top of a brood-nest, and the queens may live a month or so. It is, perhaps, more feasible to make up little boxes of bees (say half a pint) and give each a queen; then place each one of these boxes with a wire-cloth bottom over a powerful colony.

There are several of our correspondents who have claimed to have a successful method of wintering a surplus of queens in connection with one colony; but after having tried a number of them we have given them all up as unreliable. We found it much more feasible to put all such surplus of queens into weak nuclei, one and two frame, one queen to a nucleus. After the queens are sold out the bunch of bees can be united to another bunch that has a queen.

Of course it is understood that no scheme of wintering a surplus of queens in connection with one cluster of bees would be successful except in a good warm dry cellar of uniform temperature. It would not be feasible to do any of this kind of work for outdoor wintering unless the climate was very mild.

CLAY SOIL NOT ADAPTED FOR WINTERING BEES IN CLAMPS.

AT numerous times we have had inquiries as to whether it was feasible to winter bees buried up in long trenches or what are commonly called clamps. In referring to the matter in our A B C and X Y Z of Bee Culture we say it can be practiced only "where the soil is sandy and porous;" . . . "can not be made use of in a location where the soil is composed largely of clay." One of our readers wrote to Mr. E. D. Townsend direct, and he in turn sent both the inquiry and the letter to us. As the matter is of considerable importance we take pleasure in placing both the letter and the reply right here, because now is the season when clamp wintering will be under consideration. The following is the inquiry:

Mr. E. D. Townsend:—I have been reading in the A B C and X Y Z of Bee Culture of your method of wintering bees in clamps. The writer states, "This plan can not be used in a location where the soil is composed largely of yellow clay." Now, we have a heavy yellow clay subsoil, and the black soil on top is pretty thin. Do you think this plan can be used here, provided ventilation is sufficient? I have in my mind ventilation-tubes running below all the covering, down among the bees. Your opinion in brief would be very much appreciated.

Harmony, Minn. P. B. RAMER.

To this Mr. Townsend replies:

Mr. P. B. Ramer:—Answering yours of the 10th inst., I would say that your soil is just the kind that I advised *not* to use to bury bees in. We "clamped" 155 colonies last winter, all alive and in fair condition last spring. These bees were located in a place where the soil was about as you describe yours to be. Did we bury them there? No; we moved them four miles to a sand knoll to winter. I would advise *not* to bury them in the soil you mention. Bees winter very well in clamps provided the soil is a light sandy one. With natural drainage a knoll is preferable.

Remus, Mich., Oct. 22. E. D. TOWNSEND.

COMB HONEY AT 25 CENTS, AND EXTRACTED AT 30; THE EXODUS OF PRODUCERS FROM COMB TO EXTRACTED.

ONE of our representatives while in Boston recently stepped into one of the fancy grocery stores, and there was amazed to see fancy comb honey marked 25 cents and ex-

tracted in one-pound tumblers at 30. We have known all along that extracted was creeping closer and closer to comb honey; but we never ran across a case before where it was *actually in the lead.*

As a matter of information we should be glad to have our subscribers report how comb and extracted honey are retailing in their markets. Send us a postal card, saying comb honey is so much and extracted so much in glass or tins. Bear in mind, what we want to know is the *retail* or price consumers have to pay, and not the wholesale. We know what the wholesale figures are.

Possibly the upward tendency on the part of extracted honey, or, rather, perhaps we should say, the tendency of prices on the two kinds to creep more and more nearly to a level, will explain why so many producers are changing from comb to extracted. But a word of caution should be entered right here. If producers continue to drop comb honey for extracted, the price of comb will be soaring, and extracted will be trying to find a buyer. This is the inevitable law of trade, and some producers may be sadder and wiser if they make the change. At the present time it is a comparatively easy matter to buy extracted honey in any quantity; but a good quality of comb is hard to get at any price. The supply is very limited. The jobber or the commission man will tell you so if he is honest. So far as we can ascertain, one jobber is not disposed to sell part of his stock of honey to another jobber, because he knows he can dispose of all he has to the smaller retail dealers.

If any one knows of a large quantity of comb honey of first quality that can be secured, he will do well to communicate with The A. I. Root Co. We will find him a buyer instanter. We suspect there is some comb honey still left over in the hands of producers. These producers will make a big mistake if they hold much longer. Past experience shows that after the holidays there will be quite a quantity of comb honey seeking a buyer.

A NEW OLD SCHEME FOR CONTROLLING SWARMS.

THE reader's attention is particularly directed to a scheme for controlling swarming by the manipulation of an entrance-switch in the bottom-board. We refer to the device by J. E. Hand, illustrated and described on pages 692 and 693 of this issue. While the idea of working two colonies side by side, impoverishing the one and strengthening the other by shifting positions to curtail swarming, is old, yet the detail of the plan that our correspondent shows is very unique. By merely shifting the entrance-switch, the flying bees or the entire working force can be directed either to one hive or the other on the same bottom-board. In doing this at intervals Mr. Hand is enabled to break up all thought of swarming on the part of the one colony that is preparing to swarm; and the other, having received its working force, is thereby put in such a prosperous condition that it will go right on storing honey in the supers. As we understand it, it works something like this: The colony on one side, under ordinary conditions, becomes so prosperous that swarming-cells are started, for we assume that the condition is at the beginning or about in the midst of a honey-flow. Just before the bees have an opportunity to carry out their intention of swarming, the entrance-switch is turned, throwing all its entire field force into the colony on the other side that is not very strong, and has no notion of swarming. The super or supers that were on the colony that was proposing to swarm are transferred to the other hive. The flying bees rush into exactly the same entrance as they did before, and over exactly the same alighting-board; but instead of going into the hive where swarming-cells are started, they are forced in the opposite direction into the hive where no preparations have been made. All the working force of the colony about to swarm having been transferred to the other colony, the work in the super goes right on just the same. In the mean time, the colony that has just been robbed of its field bees has been so depleted in strength that it destroys its cells and merely attempts to hold its own. In the meantime, the colony that has received that heavy force of bees will probably, within a few days, begin to build its own swarming-cells. Just before it swarms, the switch-lever is shifted back to the first position, when colony No. 1 receives all the flying bees and the supers. So on the shifts are made back and forth, thus preventing swarming, and getting the force of *two queens* into one set of supers.

Along last summer we visited Mr. Hand and saw the actual working of the plan. He had had no swarms in colonies worked on that scheme, and apparently was getting a good crop of honey. Our correspondent will describe this system still further; but we thought best, in the mean time, to describe the basic principle, so that our readers will understand a little better the new Hand system of swarm control.

The reader will naturally raise the question whether the colony that receives the large force of working bees will not, through the operation, lose its queen. Mr. Hand says not, unless conditions happen to be abnormal. In the height of the honey-flow, bees are much more tolerant of their queens than under other conditions.

Our friend worked out this system over a year ago, but he did not have an opportunity to try it until this summer. It is, perhaps, too early to decide what its probable future will be. Suffice it to say, there are certain features of it that *look* attractive.

The fact that one can use his regular hives, whatever they may be, and provide only a special bottom-board, is very much in favor of the plan. The old bottom-board would have to be discarded, and a double bottom-board made on the lines shown in the photograph on page 692.

Siftings

By J. E. CRANE, Middlebury, Vt.

Mr. Townsend's wax-separator appears well worth adopting, and far better than any strainer so far used. We find it very difficult to strain honey left on hives until all sealed and taken off with bee-escapes, p. 402, July 1.

Page 404, July 1, Dr. Miller says bees were at the point of starvation until June 8, when warm weather came and bees could gather honey. The warm weather did not come here until five days later, when the storm-clouds rolled past and our troubles were over. Then we had five weeks of almost constant sunshine.

There has been some discussion of late as to whether bees get any honey from roses. I believe I have seen them at work very freely on wild or single roses, and I see no good reason why roses should not yield honey, as they belong to the same family as the apple, pear, plum, cherry, raspberry, etc. If one species of a given family of plants yields honey we may expect they will all do so.

I believe the article by F. J. Root, p. 410, July 1, is of more than ordinary value if bee-keepers will only take his advice. I believe free advertising in the popular magazines of the day would add very largely to the consumption of honey. The fact is, a large part of the people know little about honey as an article of food, and more do not buy because it is out of sight and out of mind. Bring it to their attention, and you create an appetite for one of the choicest sweets nature affords.

Page 423, July 1, Mr. E. B. Mowry tells us why he prefers black bees to other breeds of bees. I say "breeds," for I believe the different kinds of bees we discuss are only different breeds, as are Jersey or Durham cattle, and, in fact, not nearly as great a difference in them as in the various breeds of cattle, sheep, or pigs. Mr. Mowry finds black bees more productive than Italian. Some 27 years ago I bought fifty colonies of black bees, and among them were some that were very great honey-gatherers. I was telling one of my men recently that now I believed if I could get hold of the same strain again I would try to breed from them, as one of them gave me more surplus comb honey than any other I ever had. Recently I went where I bought those bees to see an extensive bee-keeper, and he told me his best or most productive colony gave him 160 lbs., and was black. He said further, the hive was one his father gave him, from whom I bought bees 27 years ago, which shows quite conclusively to my mind that we may find some strains among our native blacks that are well worth cultivating.

The discussion in the May 15th number of GLEANINGS, on the size of hives, is of a good deal of value to beginners at least. The suggestion that all use a ten-frame size, varying capacity of hive by depth of frame, is a capital idea. It is an easy matter if one is using a ten-frame hive to put in a division-board if he wants only eight frames. One of two frames used outside the board, if filled with honey, is exceedingly handy in such a spring as this to place in beside the brood. Besides, I am coming to the conclusion, after many years of experience, that the larger brood-chamber is more profitable. It happened this way: I find my neighbor who uses ten frames gets just as much honey per colony as I do with much less care, and, in addition, does not have to feed nearly as much in the fall for the winter. There appears, also, to be less loss in wintering colonies with larger brood-chamber because we find swarms will be larger in the fall in such hives than in those with a less number of frames.

THE REAL PRICE OF BULK COMB HONEY IN SOUTHWEST TEXAS.

BY OTTO SUELTENFUSS.

On page 580, under "Bee-keeping in the Southwest," the statement is made, "Several years ago the reigning prices were 8 cts. for bulk comb honey and 6 for extracted honey," which is correct; but further down the same writer says, "To-day 10 cts. is the average price for bulk comb honey, and 8 for extracted. Some who sell direct are realizing even better than this." This tends to give the bee-keeping world an erroneous idea of the prices which the bee-keepers of Texas receive for their product this year. Excepting a few large producers who sell their honey direct, the bee-keepers here in Southwest Texas have received this year for bulk comb honey, in 60-lb. cans, 9 cts. The price for bulk comb honey in 60-lb. cans is mostly taken as a basis. The smaller-sized tins fetch ½ cent more for each size smaller, making it this year 9½ cts. for one-gallon pails; 10 for 6-lb. pails, and 10½ for 3-lb. tins. The price for extracted honey was 7 cts. in 60-lb. cans. That was in the spring. For the last three months the market for extracted honey is rather dull, and it is moving very slowly at 6 to 6½ for water-white.

Bee-keepers having a lot of extracted honey on hand yet will do well to keep it until cool weather sets in, as there seems to be a greater demand for extracted honey during the winter months.

San Antonio, Texas, Oct. 4.

Bee-keeping in Southern California

By Mrs. H. G. Acklin, Glendora, Cal.

A grocer and a bee-keeper were talking about candied honey recently, and in the course of the conversation the grocer gave the bee-keeper a few pointers about keeping honey in a liquid state. The plan he followed was very simple. He just mixed the honey with glucose or corn syrup, and it stayed liquid a long time. This is no joke. It actually happened, and less than 100 miles from my own town too.

We paid Mr. and Mrs. C. C. Schubert, of Santa Monica, a visit the other day, and they drove us up Mandeville Canyon, where some apiaries are located. The Pritchard apiary was the first one, but nobody was at home except the bees. The location is quite pretty, and made one feel like going right to work; but, of course, there was nothing to do or the owner would have been there. Two or three miles further on is the apiary of John Moll. Mr. Moll was at home, and kindly gave us the use of his premises. We cooked steak over an open fire, and had a delightful repast in the shade of a live oak. The expression on Mr. Moll's face was a study when I asked him about the honey crop. Evidently he was sorry for my ignorance, but did not want to show it too plainly, and consequently that look. Several miles further up we came to the apiary of I. E. Parish. This, like the first one, was very quiet, the owner being away. But a honey-flow is expected some time, as every thing is in readiness. This apiary is at the head of the canyon. It must be a job to haul supplies up and honey back. I think people who operate those canyon apiaries deserve all they get, and more than they got this year. There seem to be innumerable canyons in those Santa Monica Mountains, and bees are kept in many of them. The good roads maintained to those out-of-the-way places were a surprise. The way gets narrow, though, as one gets higher up, and I wondered how two heavily loaded teams could pass. We passed quantities of blue-curl in blossom just before starting up the canyon, but nearly all the other honey-flora was brown and dusty. In fact, every thing is dusty, as people who drive along these roads at this time of the year soon realize. But when the rains come this will all be changed, and those little mountains will blossom as the rose.

BEE-KEEPING IN CALIFORNIA AS COMPARED WITH THAT IN THE EAST.

A request came to me some time ago to draw some comparisons regarding bee-keeping in different sections of our country. There is so much difference between California methods and the way bees are taken care of in colder climates that one coming here from the East feels as though the business must be learned all over again. Bees are not reverenced here as they are back east. They are looked upon purely as a money-making proposition. One reason for that is, there are none kept around our homes, and we never get familiar enough with them to feel a sort of comradeship. Bee-keeping here means going to the mountains and camping for the time that bees need attention, and it is not at all remarkable that people are glad when the honey season is over. With bees right at home, as many people have them in Minnesota, one becomes acquainted with them. The bee-keeper can work a few hours with his bees, and put in the rest of the day at some thing else if he chooses, or take care of them mornings and evenings if he is a business man; and when the honey season is over, supers are taken off and bees prepared for winter. Not so here, as there is no special winter preparation needed. I have seen several apiaries in the last few weeks, and all had supers on still, although, in most instances, the honey-flow was long past. The bees are left entirely alone unless some one happens to make his home in one of those canyons. Bees are not taken account of here as in the East A few colonies more or less does not matter; or a few swarms lost is a trifling affair. One is hardly counted a bee-keeper unless his colonies can be reckoned by the hundred or thousand.

As to knowing any thing about queens, some claim it is entirely out of the question. Others pay considerable attention to their queens. Instead of being frightened and nervous over foul brood, as we were in Minnesota, bee-keepers here say, "Oh, yes! I still have a few infected colonies, but it is nearly gone. That little bit won't hurt any thing." No unnecessary expense is put into those canyon apiaries, either on hives or beautifying the surroundings, as the crop conditions here are so very uncertain. Next year may be a good one, but there is no surety connected with that "may" as there is in the East. Although there are tremendous yields here occasionally, I doubt if, taken one year with another, the California bee-keeper is any more favored than his Eastern brother. Bee-keeping here is conducted on an extensive scale. One of the apiaries I visited the other day had two four-ton honey-tanks placed ready to fill; but there were only about 125 colonies of bees there.

If I have failed to say just what some would like to know, write me and I will try again.

Bees Expensive Feed for Chickens.

As I have 300 chickens I have had some difficulty in furnishing a suitable meat ration for them. They got after one of my colonies of bees, but I stopped them at once. Perhaps I was wrong in doing so: but I should like to ask Mr. W. E. Brown, page 598, September 15, if he finds it profitable to feed bees to chickens. He has been trying this for some time.

Bradentown, Florida. D. W. Abbott.

Bee-keeping Among The Rockies

By Wesley Foster, Boulder, Colo.

COMB-HONEY PRICES GOOD.

Now, $3.25 is a good price for us Western bee-keepers; but those of us who had any surplus honey this year, and had it put up properly, have reached this figure. However, each comb in the case of 24 must weigh at least 13½ ounces, and no unsealed cells dare occur except in the outside row.

FOUL-BROOD LAWS THAT CONDEMN BOX HIVES.

That New Zealand law certainly takes hold of the matter of bees in box hives, cracker-boxes, etc., in the proper way. Any place where bees are kept in these makeshifts is a poor place for an up-to-date bee-keeper, for it is impossible to keep such bees from infection. While bees in boxes are very rare in the West, they *are* found, and it would be a great advantage to have a law such as the New Zealand law. We should have our inspector also getting after the bees in the rocks and trees in the mountains; and any man who knew of the presence of bees in the sides of houses, outbuildings, or chimneys would be liable if he did not report it to the inspector or remove the bees to frame hives. I do not think this would be a hard thing to enforce in this State, for the law would affect but few, and would certainly be an added protection to those who are having a hard fight against foul brood.

WINTER VENTILATION.

We have contracted our entrances to one or two inches, and have used both sealed covers and various types of absorbent cushions. Our experience in this dry country with comparatively mild winters is that absorbent cushions are not a great advantage. Double-walled chaff hives are not used in Colorado, so my observations have all been with the single-walled hives. The winters are mild, almost without exception, till April, having but a few storms that keep the bees confined in the hives more than a week without a cleansing flight. But in April we have a continuous succession of damp slushy snows with much cloudy weather which will prevent the evaporation from the hives that usually takes place during our regular cold dry days of December and January. When I speak of a cold day here in Colorado I mean only a crisp day. Our days are cool in winter, but the cold does not pierce to the marrow of one's bones the way it does in damper States. The moisture does collect on the tops of the frames of a sealed-cover hive during the damp snowy days of early spring, and so a cover with just a small opening at the top has been found to be sufficient here. A honey-board with an escape-hole in the center and an outer cover over this is the best for our country. The winters are not so severe that we need fear from the cold, and a larger number of bee-men each year are finding out that the bees can use a full entrance with some upward ventilation such as a hole in the inner cover. Hives that have been uncovered entirely for several weeks, and had snow drift in on the combs and bees seem to suffer little damage. The snow is comparatively dry; and the air being dry, the bees do not become damp. Wintering is not much thought of in this country; but we shall find in the near future that a little more care and adoption of Eastern methods of wintering will be a good thing. The double-walled hive and the winter cover are now attracting some attention. We think perfection in wintering has not been reached here, and so a few of the heretofore thought useless practices will no doubt be tried.

MODERN SYSTEMS OF SELLING.

Now that the time of year has come when we are spending some time in selling honey it will do no harm to study the methods of some of the food manufacturers. The large canning and preserving companies send out hundreds of salesmen, and every salesman endeavors to sell all the goods possible. The zeal of the salesman outruns his judgment many times, and he sells the retailer more goods than he can handle. Many salesmen take the attitude that they will sell every man just as heavy a stock as he will buy; and if he has bought too heavily, let him get rid of the stock as best he can. This makes large sales for a while, but a house that pursues this policy soon finds that it is losing trade. Five years of such a procedure will wind up the average firm's business in a given territory. The old and reliable houses go directly to the consumer with house-to-house demonstrations, and Saturday demonstrations in the stores. A district manager for the "Heinz 57 Varieties" told me that he got his best territory by going from house to house one week out of each month, and working the grocers the rest of the time. The grocers will handle any thing the customer calls for, and the real work is to get hold of the customer. The grocer will not believe what a salesman says nearly so quickly as he will act on the request of a customer for a certain brand or kind of goods.

The only kind of salesman who will succeed is the one who can show the housewife the value of the goods, and can also take the same proposition up to the manager for a wholesale grocery, and get him to put in a stock of goods and push it.

Notes from Canada

By R. F. Holtermann

My bees are in winter quarters (outer cases), with an eight-foot fence about the apiaries. They are fed, and ready for winter; and at this date, October 13, I look for a quiet time—shall I say a holiday in more northerly Ontario?

MOISTURE AND NECTAR SECRETION.

Friend Byer comes to the conclusion, p. 317, *American Bee Journal*, that the reason I give for alfalfa secreting nectar is wrong because it did not hold good with alsike clover. The best conditions for secreting nectar from alfalfa are, in my estimation, not the best conditions for the alsike-blossom to secrete. That is my answer to that.

COMB OR EXTRACTED HONEY.

Editor Root states that the tendency is for the production of extracted honey, abandoning comb-honey production. The same is true in Canada. There are many things which tend to make the production of extracted honey less risky and more profitable. I was at one time a comb-honey producer; but I fail to see the money in it unless there is a very great difference in the price of comb and extracted honey.

STRONG COLONIES FOR FALL FLOW.

Mr. D. M. McDonald has a practical apicultural pen, and in his article on page 617, Oct. 1, he strikes at the root of many failures to obtain fall honey when he states, "For working any late flow, crowded colonies, doing quick and expeditious work, are of the greatest importance."

In writing about strong colonies, Mr. McDonald, in referring to the work of these in comparison with the work of weaker, says, "so much so that results would astonish bee-keepers accustomed to medium colonies." The article is well written, and worthy of careful perusal.

AMERICAN FOUL BROOD.

When I think of all that I have read about European foul brood I am forced to the conclusion that this name at present is given to different diseased conditions or else the powers of observation or description of some writers is very defective. I confess I am afraid of the disease. It is, perhaps, not generally known that European foul brood was brought into Canada with bees from New York, in the Niagara Peninsula. I understand, however, that it has been stamped out.

As to American foul brood, Editor Root, page 611, Oct. 1, writes: "While Mr. House did not go so far as to say that requeening with Italian blood would cure American foul brood, he was most decidedly of the opinion that it was a very important element in any treatment."

I am strongly convinced as to the superiority of Italian and Carniolan bees, and would not keep a black colony 24 hours longer than necessary; but I doubt very much indeed if black blood has any practical bearing upon foul brood, and I do not believe it has any bearing on the cure when the hive is once infected.

REMEMBER.

Under the heading "Letting Bees Rob out Wet Extracting-combs," Editor Root has the following caution: "Of course, if one has foul brood in the vicinity, such wholesale cleaning-out of combs is dangerous in the extreme, for practically every colony in the yard will have a hand in robbing out the combs; and should they contain any germs of disease, foul brood will be spread right and left." I have begun to doubt if it is ever wise to set out combs in this way. If there are many bees in the neighborhood, the bees will fight for the honey, and sting one another to death. If any one doubts this, let him watch the bees or see the large number of dead bees about the pile afterward. Such excitement, too, in the fall of the year, must take very much from the vitality of the bees which go into winter quarters.

AUTUMN.

There is no time of the year when that well-known sentence, "Oh for a lodge in some vast wilderness!" appeals to me more than during the month of October. How the noise and bustle of city life distracts! it may for a time fill a life that does not want to take the time to weigh the things of eternity; but to the one who has been redeemed by the precious blood of Christ, and who seeks to live for the one who loved and gave himself for them, that season of the year, alone with God and nature, should have a special charm.

When we look upon the beautiful autumn tints of the woods, and think that what has brought these tints about is that the trees no longer give their strength to the old leaf, but are setting unseen buds for resurrection life, we can see a parallel to what should be the case in the life of every child of God. We should be dying to the old unregenerate life, and laying up fruit which shall adorn us in resurrection, and how beautiful it is to see such lives! and what an influence and power such have over us! Israel of old had cities of refuge, and there were to be no stumblingblocks in the way of those fleeing to such a city. Instead, there were to be finger-posts to point the way. Our city of refuge is Christ. Are our lives finger-posts pointing to him, or are they stumblingblocks causing those to stumble who might otherwise reach him? For myself, how often I have to say, "Alas! alas!"

Conversations with Doolittle

At Borodino

SOME OF THE ESSENTIALS FOR SUCCESS IN BEE-KEEPING.

"Mr. Doolittle, do you think I have brains enough to succeed at bee-keeping?"

"Success in any undertaking does not always depend on brains. The persistent toiler whose vocabulary does not contain the word *fail* will, more often than otherwise, outstrip the brainy young man who expects to leap to the front at a bound; and successful bee-keeping, like many other things, requires a person who does not get discouraged by slow advancement, nor weary of digging deep into the details.

"The bright brainy merchant who cares more for gratifying his love of ease or social pleasure than following the daily routine behind the counter or at his desk will hardly be the Montgomery Ward of his time; and the bee-keeper who cares to do little more than hive his swarms and take off the little honey he may have in the fall, rather than exert himself by leaving no stone unturned before he has the maximum number of bees in time for the harvest, will never become a Dr. Miller nor a W. Z. Hutchinson."

"But the merchant works at his business for financial success, does he not?"

"Yes; and we may say what we will about the fun of keeping bees, the prime object in it all is the financial success, and so it has come about that, if the business does not pay, that bee-keeper is not called one who succeeds. There is no question, even, but that *your* ardor would soon begin to abate after starting in unless you heard the rustling greenbacks in your cash-drawer. Whether five colonies or five hundred be kept, each one must be made to pay a fair rate of profit on the investment."

"But bees certainly do not require the labor that a merchant would have to put into his business."

"No lazy person need expect to succeed with bees. The idea that we can sit idly by and become rich while these little creatures that 'improve each shining hour' do all the work, is a delusion and a snare. No one ever did or ever will succeed who looks upon bee-keeping as a scheme to secure money without labor."

"But I was told that bees would work for nothing and board themselves."

"That might be true if you looked at it as the Irishman did when he invited his brother over to this country. The story goes that he wrote his brother a very picturesque letter describing the beauties of America, and finished up by saying, 'Come over, Pat, faith, and all ye have to do is to carry the hod of brick and mortar up the ladder, while the min up there do all the work.' Now, if one looks at the labor question like that, then the bees are the "min" upstairs who do all the work, our part of it being only to supply the 'brick and mortar,' so that their work may bring us the best results."

"I suppose you mean by this, supplying the bees with the best hives, etc."

"That might be considered as a small part of the matter; but the location of an apiary is of the very highest importance. Where no nectar-yielding plants abound, there must of necessity be only failure; and simply because there are fragrant flowers about you is not sufficient reason for locating an apiary at that place. Years ago, when my departed mother was in her prime she had a yard of very bright flowers, and about that time I produced an average of 160 lbs. of comb honey from nearly 100 colonies. One day when taking a friend into the honey-room to see all this honey piled up, after looking it over and admiring it he said, 'No wonder your bees did so well, for your mother raised such a nice garden of flowers for them.' There were only two kinds of flowers in that garden which were ever visited by the bees, and these were the least conspicuous of any!

"Then you should know something about the natural history of the honey-bee. When that expression, 'bees work for nothing and board themselves,' was coined, the mother-bee of the colony was called a king-bee, and it was thought that this king directed the movements of his subjects. The practical apiarist of to-day knows better, because of the amount of thought and study he has put into his business from the love of it. Our much-honored Langstroth once wrote, 'There will never be a royal road to profitable bee-keeping. Like all other branches of rural economy it demands care and experience, and those who are conscious of a strong disposition to procrastinate and neglect will do well to let bees alone, unless they hope by their systematic industry to reform evil habits which are well nigh incurable.' If you are to succeed you must be so absorbed in it that you will think bees, talk bees, dream bees, and never tire of their study. You must be one who anticipates their every want, and one who will do the right thing at the right time."

Sub-earth Ventilators.

I wish to build a sub-earth ventilator to my bee-cellar this fall; but after reading the article on page 517 on the subject, I have decided that I do not know how to build it. I have considered different ways of making it—first, an ordinary drain made of stones; second, an ordinary drain made of stones and cement, water-tight; third, a glazed tile-drain. Of course, all must be put down out of the reach of frost, and as large, at least, as a six-inch tile, or larger.

Hasbrouck, N. Y., Sept. 19. IVAN C. HALL.

[We would by all means recommend the glazed tile, or what we call here sewer-pipe. The joints should be well cemented, so as to keep out moisture. There will be moisture enough in the cellar without drawing in more of it through a wet sub-earth ventilator.—ED.]

General Correspondence

BEE-KEEPING IN SOUTH AFRICA.

BY THOS. J. COOK.

Bee-keeping, here, there, and everywhere, should, with slight modifications, be based on standard lines. There is no need to enlarge upon the statement which has long been recognized as an insurmountable fact; and that fact is, the keeping of the industrious little insects in modern hives, and devoting scientific study to their peculiarities, with a view to securing a reasonable remuneration from their labor. Therefore it is with much regret that I pen a description of the orthodox methods generally observed in South Africa in the keeping of bees. It is certainly not bee-keeping, notwithstanding the good work of the very few up-to-date apiarists residing in various parts of the sub-continent. I have read a good deal concerning the use of box hives in other countries; but, generally speaking, I do not think other countries are especially conspicuous in this respect.

NOT ON A COMMERCIAL BASIS.

From north to south and east to west, the idea of bee-keeping is regarded with more or less contempt—a hobby for a schoolboy, perhaps, but certainly not an industry worthy of consideration by the older fry, and thus the bees go a-begging at swarming time for want of sympathetic caretakers, so seldom does their swarming-note appeal to the multitude. As a matter of fact, the popular idea of bees and honey is associated with an afternoon picnic party trekking to the veld, armed with a spade, pick, sacking, matches, and sundry other paraphernalia with which to rob a bee-nest when other forms of diversion have grown stale. It is then that preparations are made for "lining" the bees, and this is quite an easy method beside your American method (the comb-box plan). The entire party, to a man, simply crouches down, and, with heads turned toward the setting sun, they mark the flight of the honey-laden bees returning homeward. Or it may happen that the "honey-bird" (as the species is called out here) is heard piping near a wild hive. This bird, by the way, has a high reputation for directing the steps of bee-hunters, and it has never yet been known to raise a false alarm. Whichever cause actuates the party, it is not long before a line of march is decided upon; and in most cases in a few minutes—say from a quarter to half an hour—the hive is located, generally in an ant-heap (there are few trees suitable for bees in South Africa). At the precise moment of commencing operations the leader of the expedition lights the sacking, and, without more ado—no thought for irascible home-coming bees—the spade is brought into commission with a right good will. The angry onslaught of the bees will soon be manifest, but the work of digging goes on abated. These old-timers have remarkable hides. I have seen a Dutchman, bareheaded, barearmed, with open shirt front and minus socks, take terrible punishment inside half an hour, without making undue mention of the fact. The burning sacking is never rightly brought into use; but as it is thought to be part and parcel of the work, each man follows the precedent. On such occasions as this, bees simply swarm up the trousers legs of the offending visitor; but, as I have previously said, these old stagers have remarkable hides. They would laugh to scorn the very idea of wearing a veil; and as for gloves—well, their contempt for such would be illimitable.

However, notwithstanding the apparent familiarity of such persons with the habits of the honey-bee, they are ignorant to a degree of the knowledge which up-to-date bee-keepers acknowledge to be indispensable to success. After the excitement of the first stages of the operation has abated somewhat, some one brings a bowl to the scene of ignorance, dirt, anger, and disaster—disaster to bees and hunter alike—and what remains of the demented bees' handiwork is placed in the bowl, the whole mass being more typical of an earthquake than that of God's masterpiece—man. Alas! there may be seen scores—aye, hundreds—of mangled insects—those that have toiled for the pleasure of the hunter and the ignominy of such untimely end—budding brood in all stages of development, and dirt galore. The whole scene is one of complete disaster. Probably not more than five per cent of the colonies robbed in this way are able to migrate with their queen, if she be still alive; and when, as is often the case, she is killed, there is no place left in the old hive in which to commence housekeeping; for these bee-hunters perform their task with persistency, and allow no corner of the hive to escape their notice; and then, again, these upheavals are always timed to take place at the close of the season, and thus the life-cycle of another swarm is ignominiously terminated. Ah! would that such primitive minds understood the great work of these immortal insects!

Occasionally, however, one meets with one who is more up-to-date in his primitiveness, and who will point with pride to his half-dozen or so kerosene-cases doing duty as hives. An individual of this kind is hard to convince as to the relative merits of his structures and the modern hive. He affirms that bee-keeping does not pay, and that his idea in having so many hives is in order to be sure of having a plenteous supply of the choicest nectar for his own table. He complains that a moth (the wax-moth) comes into his hives, and scares away the bees and usurps the combs, among which the new comer thrives and increases his kind. He regards one's explanation of the circumstances with genuine suspicion, and

concludes generally with a reference to his "bad luck."

CONDITIONS GOOD FOR BEE-KEEPING.

It is remarkable how few evils beset the path of bee-keeping in South Africa. In the first place, there is no known disease to combat; then, again, there is generally sufficient flora in the driest districts to ensure at least moderate returns, while in parts South Africans can well challenge the inhabitants of Imperial Valley and other well-known California bee habitats rich in nectar-bearing flora. I have known as much as 150 lbs. of honey to be taken from a single box hive which had not received the slightest attention from its ignorant owner for over twelve months. If he had had to combat foul brood and sundry maladies known to Northerners, doubtless he would have had another story to tell.

The South African bee is a splendid worker, fairly docile and amenable to civilization, and seems to work with a will among the more congenial conditions, provided the hive is well sheltered from the sun and winds. I know many will not agree with me in this respect; but I have investigated many cases where bees have persistently deserted modern hives, and in nearly every case one or the other cause contributed, undoubtedly, to the absconding persistency complained of. In such cases persons have taken sides with the box hive, and have proved that the bees would remain in these crude structures, in positions where modern hives have proved unsuccessful in this respect. But, again, I have pointed out that, by virtue of the size and often favorable ventilation afforded by box hives (according to the circumstances I have been called upon to explain), the bees have been better catered for with the old than with the new style hive. I need not describe the ceremony that usually accompanies the "take" at the end of the season from such undesirable bee "dwellings," as the same is universal.

I should be lacking in sentiment indeed were I to pass on without paying a tribute to the alacrity with which our bees pursue their calling. Many times during the honey-flow I have seen my bees working at 3 A.M., and as late as 11 P.M., assisted in their quest for nectar, seemingly, by the light of the harvest moon; and, generally speaking, I have no cause to complain of any apathy on the part of the South African bee, either in brood-rearing or storing in supers. Indeed, I have had remarkable success in this respect without making special provision for the same. Another feature of my bee-keeping in South Africa is the phenomenal success which has always attended my queen-rearing operations. I have frequently taken surplus cells from a hive and placed the same in a match-box and tossed them up on to the top of a shelf near the roof of my house, and, without exception, I have always been apprised of the approaching hatching of those cells by the inmates themselves. In walking through my house I have frequently heard the familiar "piping" of some monarch-to-be, and have promptly attended to her requirements by placing her slender gray form in a cage, and then relegated her to a hive until mating-time.

In their native state the bees here have to contend with the ravages of the ant-bear—an animal very much like your brown bear, but only about the size of a fox-terrier dog. This animal, as its name implies, lives chiefly on ants, which it attacks in their hills by scraping away a hole at the base of their abode. Once inside it scrapes the interior of the hill bare, devouring as many of the inhabitants as it can lay hold on, devoting special attention to their eggs. It is following one of these attacks that a swarm of bees takes up its abode. The ant-bear is wise in his day, and suffers the tenants of the scene of his late depredations to fill their larder unmolested—until *he* wills otherwise. When he thinks there is a sufficient supply of honey in the ant-hill, calculated to appease his desire, he sallies forth. Nothing can withstand his attacks—unless it be iron bars—and inside the ant-hill he goes. Then commences a banquet in wholesale order—bees, brood, honey, and all are devoured *ad libitum*. Nature has provided him with a hide which the stings of our favorite hymenoptera can not penetrate; and, having satisfied himself thus, he decamps, leaving the remaining bees to figure out the prospect of restarting for themselves.

BEE PIRATES.

May be it is meet to record that there is a wasp here known as a "bee-pirate" which is alleged to be responsible for the depletion of many a stock, but I "hae me doots" about the actual total of facts in favor of this theory. I can not do better than to outline the *modus operandi* of this wasp, which certainly does create a certain amount of anxiety with myself, but not from its direct operations. The pirate is a yellow insect possessing a sting, and is extremely smart in its movements. It usually manifests its presence in the apiary about the beginning of November, and remains there until March of the following year. Usually its hours are very regular, and it may be seen between the hours of 9 A.M. and 6 P.M. any fine day, on any point of vantage from within 6 ft. up to the alighting-board of the hive it is watching. I have paid special attention to this insect, and have not the slightest hesitation in stating that each pirate concentrates its attention upon one particular hive. Of course, there may be any number of the pirates up to a dozen watching at the same time. The pirate's mode of attack is as follows:

Usually it is only returning bees that come in for attention. As soon as the bee is within striking distance the pirate pounces upon its victim, delivers a thrust with its sting, and flies away with its prize to its nest, which is generally made in the ground. There the pirate lays an egg on

the under side of the bee in the region of the neck. The resultant larva from this egg is thus enabled to secure nourishment from the honey-sac of the bee as soon as the egg hatches, and thus the cycle is repeated. Now, it will be noted that these pirates molest the bees between the hours of 9 A.M. and 4 P.M. during the summer months (remember the seasons are reversed in this part of the world), i. e., when, according to the best authorities on the subject, there is little or no nectar secreted by any flowers in hot climates. The climate of Colorado and most parts of South Africa coincide to a degree. Reverting to the work of destruction credited to the bee-pirates, I strongly uphold the view I have made by deduction, viz., that the evil effect of the pirates on the bees is not direct, but is attributable to a demoralizing influence on the hives in easy range of them. I have frequently noticed hive after hive in which the bees were to be seen shoulder to shoulder stretched across the entrance from side to side during the period of the day mentioned. It is a striking sight to witness these sentinels strongly entrenched against their solitary enemies, who, from time to time, assert their impatience for attack by flitting from point to point, eagerly awaiting a favorable opportunity to seize a straggler. I have actually seen these pirates march boldly in (always at right angles), and spar with one of the defenders comprising the line of defense; and should the bee—which is not often the case—make bold enough to assail the intruder, the fate of the former is sealed. With a quickness which has to be seen to be appreciated, the bee is seized, and the victor takes to wing in the twinkling of an eye, while another bee in the rear takes up the position vacated by the over-zealous defender. Occasionally, however, the defenders effect a capture, and then there is a distinct note of joy struck up which reverberates throughout the hive, and the invader is subjected to "balling," similar to that which befalls a strange queen at times. But, notwithstanding that the bees frequently imprison the pirate for hours at a stretch, the chitine covering of the pest proves invulnerable to the attention of all and sundry that from time to time seek to wreak vengeance upon it; and, seizing a favorable moment when the bees are not so numerous, and, consequently, the pressure is lesser, the pirate will break away from his would-be captors and once more awaits his chance, which is never long in coming, and is always certain in its result.

The system in vogue among progressive bee-keepers for exterminating these pests is a simple one: A plate containing kerosene and water is placed slightly to one side of the middle front of the hive, and the pirates (which seem to have a particular liking for white surfaces) are caught very soon, although, of course, frequently bees are caught as well. But the great point to keep in mind in this connection is the demoralizing influence which one pirate will impart to a whole hive—not so much the value of the bees caught.

A TWO-LEGGED BEE-PIRATE, THE AFRICAN KAFIR.

At this juncture I am reminded that I have not been very successful with out-apiaries, owing to the presence of a two-legged "bee-pirate" in the shape of a Kafir. I am afraid my northern confreres would lose heart altogether after putting in a season in South Africa (that is, if they decided to run out-apiaries. It takes a deal of combating, I assure you. The Kafir must and will have both brood and honey. The former he makes into an intoxicating beverage known as "kooroomore;" and with the latter he regales himself full well. It is here that, for the sake of economy, it is better to invest in packing-cases, for the simple reason that the dusky thief, not content to take brood and honey, takes away to his hut the whole outfit, and lights his fire cold nights, may be, with the fuel thus obtained, the while gorging himself to profusion with his ill-gotten gains, and listening to the cheery crackling of the hive-boards; for what will burn with greater avidity than the propolis and wax besmeared boards of a time-worn hive? Nor am I alone in my experience of the black miscreants' depredations. I have met several bee-keepers who complain in a similar strain.

THE SOURCES OF HONEY.

The markets for honey and wax are always eager for a greater supply than is usually forthcoming, and prices, as a consequence, are good, frequently ranging from one shilling to two shillings per pound for "strained" (not extracted) honey, while for comb honey as much as 60 cts. per section has been obtained retail in Johannesburg. I myself have obtained 54 cts. for comb honey in bulk.

The chief sources of natural nectar are the mimosa and decoma trees, pink heather; and, of late years, the pepper-tree and blue and red gum have contributed largely to the supply of nectar obtained from what might well be termed wild sources, and have come to be regarded as valuable adjuncts to indigenous flora, especially as they come into bloom just about the time when pollen is most needed for building up the brood-chamber in readiness for the fruit-bloom.

Bee-keeping as a business has not been taken up by many people. In fact, I think I am correct in stating that only about three or four persons have as yet settled down to the industry wholly and solely; and their efforts have not been in prominence long enough yet for any definite statement to be made regarding the ultimate success of bee-keeping as an independent industry. From a personal point of view, however, I regard the outlook with optimism. In Natal, it is stated that bee-keeping has not been very successful as a whole, owing to the presence of so many sugar-cane fields. The bees have, apparently, developed the habit of visiting these fields,

and have neglected their legitimate work almost entirely, so that the product of their hives—it can not be termed honey—is little above the standard of sugar and water. Of course, this is the case only in those districts where there is the least natural flora. In other parts bee-keeping can be pursued as profitably as elsewhere.

AFRICAN BEE-KEEPERS' ASSOCIATIONS.

Just now things are making a stir apiculturally. Societies are being formed in many districts for promoting the scientific management of bees; and the parent association, with headquarters in Johannesburg, is aiming at instituting a co-operative depot, with branches, for the sale of honey and wax, the product of its own and affiliated societies' members. Indeed, so enthusiastic has this parent association become that already it has succeeded in influencing the parliaments of the five colonies to pass a bill prohibiting the importation of bees and honey, and even foundation which has not been subjected to a temperature of 150 degrees Fahrenheit. But I think this action will not meet with general approval, in view of the fact that large confectionery manufacturers could not obtain all the honey needed, even ordinarily, before the impost, while the general public have had a similar grievance. Regarding foundation, it seems as if some one is aiming at creating a monopoly locally; but even so it is doubtful if the local product would be as good as the imported article; and then, again, it surely will not pay to put down an up-to-date plant for the manufacture of wax equal to that now being manufactured in America—at least for many years to come.

Hives and hive fittings—their names are legion—are very dear here, and in that way prohibit any but the most enthusiastic, or those in good positions from taking up the pursuit. Speaking from an unbiased point of view, I think a Langstroth hive is as good as one can get for the South African climate. Of course, it requires watching like any other make; but, apart from that, it is better adapted to local requirements than any other make with which I am familiar.

There is no special legislation with regard to the keeping of bees in South Africa; and, providing no ravages on the part of our "little friends" are reported, all goes well. But I am of the opinion that the near future will witness many changes all round, especially as there are so many bee-enthusiasts now in touch with one another through the various societies; and as a concluding remark I will say that I could easily commit a greater libel than by stating that bee-keepers in South Africa have a good time ahead.

Broken Hill, N. S. W., Australia.

HORSES PASTURED IN A SWEET-CLOVER FIELD REQUIRED NO WATER.

BY HENRY STEWART.

For a long time I have known that, after stock acquire an appetite for sweet clover, it is relished and makes one of the most nutritious foods; but not until last summer did I discover that it contains all the essentials of both food and drink for live stock.

I have eight acres of very thick sweet clover, which was sown in 1908 with oats. It made a good growth, and afforded a good deal of feed in the late fall and early winter of the same year. In the spring of 1909 until May 10 it was the favorite grazing-ground for the cattle and horses. About June 1 it was clipped with the mowing-machine within five inches of the ground, and, after being fenced, three horses were turned into it. I supposed that they would require water; and as it was but a short distance to a neighbor's pump, a tub was provided and filled with water. To replenish the supply a visit was made every other day; but as no water was taken it was certainly evident that those horses were not thirsty. After several days of total abstinence from water they were caught and taken to their accustomed watering-tank for a good drink; but we were again surprised to find that they had no use for its contents, so they were returned to the field. As they showed every sign of thrift and contentment they were let go, and visited only at long intervals, when water would be put in the tub and an effort made to induce them to drink, which, however, was always fruitless. They were not known to take any water until July 9, when they began drinking a little from the tub.

One of my neighbors claims to have read that stock pastured on sweet clover would require but little water. Who knows any thing about this?

Prophetstown, Ill.

[The above is somewhat of a surprise to me, although I have known several instances where stock got along under some circumstances without water. I take it that in this case there were very heavy dews nights; and the sweet-clover foliage contained a large amount of water which the horses took in as they fed on it early in the morning. Chickens have been known to live and do well in cornfields for weeks and months without access to any water except the dew from the dripping corn-leaves. This is another item in favor of sweet clover. The writer also speaks about clipping the clover down to within five inches of the ground. As this would hold it back from growing seed, I suppose it produced an additional amount of pasturage.—A. I. R.]

The next annual convention of the Michigan Bee-keepers' Association will be held in Grand Rapids, Nov. 9, 10. E. B. TYRRELL, Sec.
230 Woodland Ave., Detroit, Mich.

The Middlesex County Bee-keepers' Association will meet in the City Hall, London, Ont., on Saturday, Nov. 5, at 10:30 A.M. Interesting papers and addresses will be given by prominent bee-keepers. All are welcome. Officers for the ensuing year will be elected. E. T. BAINARD, Sec.,
A. DOWSWELL, Pres. Lambeth, Ont.

GOLDENROD.

BY HARRY LATHROP.

The goldenrod, all out in bloom,
Stands nodding in the breeze,
And sending out a sweet perfume
To lure the honey-bees.

From morn till night its golden light
Shines over vale and hill,
Here hiding broken walls from sight,
There bending o'er a rill.

And far and wide this wealth is spread,
Of gold that all may share;
Unlike the gold of greed, this wealth
Is scattered everywhere.

Bridgeport, Wis.

BULK COMB HONEY IN THE NORTH.

One Sale Means Many Orders.

BY CHARLES J. GREENE.

A few years ago I became very much interested in a series of articles in GLEANINGS by H. H. Hyde, of Texas, on the production of bulk comb honey; and I thought that, if it were such a success in Texas, it might be made a success here. I decided at that time to test it here in New York under our different conditions, and I have been much pleased with the experiment. I have read with much interest all articles touching on this subject, but I have found none that I thought were comprehensive enough.

I began on a small scale and have increased each year since, and have never been able to supply the local demand for the product. I sell in two small villages and one village of about 5000 inhabitants, also along the roads between my home and these villages. As to equipment, my hives are all regular ten-frame L., fitted with the supers designed for holding the $3\frac{7}{8}\times5$ sections. In these supers I use eight shallow frames with thick top-bars with single groove and wedge for holding the foundation. In fact, most of my frames are the regular Hoffman, with the end-bars cut off to make them narrow. I would explain here that I use this style of frame because it is more rigid than the thin top-bar frames, and prevents all sagging of these heavy frames of honey. The wedges are large enough so they can be removed and used over and over, as they are held in place by three small wire nails. The wedges can be easily pried out with a stiff knife-blade, when the narrow strip of foundation peels right out, leaving the groove clean for the next sheet of foundation. I use the extra-thin super foundation, either starters or full sheets, and thus secure nice, straight, thick combs of honey.

The next problem was what to use to put the honey in for market. The best thing I have found so far is the regular 5 and 10 lb. butter-pails with straight sides, which can be bought almost anywhere at a reasonable price. I have used some pails with slanting sides, but like the straight ones better. I would not use any pail having a smaller opening than the full size of the pail. I have packed a few pails for neighbors who have brought their own pails that had contained corn syrup, and had a smaller friction-top opening, and they were certainly a nuisance.

Now for the packing. I place several open pails before me on a table covered with oil-cloth, with a super of honey within easy reach. I then take a frame, set it endwise on a stick over the uncapping-tank or other receptacle, and, with a very thin sharp knife I cut along the bottom-bar, then across the top end, then down along the top-bar a distance equal to the depth of my pails (this will be determined at first by careful measurement, but after a little experience by guess); then I cut across, and, with a quick movement, place the piece in a pail with the last cut end at the top; then cut another piece and place by the side of the first, and so on till the pail is filled. If a piece is

HENRY W. BRITTON'S BUNGALOW AND APIARY AT STOUGHTON, MASS., WHERE THE MASSACHUSETTS SOCIETY OF BEE-KEEPERS WAS ENTERTAINED LAST JULY.

too thick or too thin to fit well I set it in another pail and select a frame from which a piece can be cut to fit. Sometimes I have several pails in course of filling at one time. About three or four pieces will fill a 5-lb. pail, and four or five will fill a 10-lb. pail. This leaves the clean-cut edges of the honey in view when the pail is opened. As a frame is emptied I scrape all adhering honey and burr-comb right into the uncapping-tank and set the frame back into the super. If I happen to find a frame that has had a patch of drone brood in it I either save it for extracting or cut out the piece and chip it up fine into the tank and pack the rest. We must be very careful about this so that only the finest honey may enter the pails.

After several pails are filled they are weighed; and if they do not come up to the weight determined upon we add liquid honey until they do; but we try to use as little liquid as possible.

At the beginning of the season I determine on the weight and price per pail and stick to it through the season, so all customers are treated alike, and there is no kick. In fixing the price I have to consider the price of section and extracted honey in our market, also cost of pails, and the comparative cost of producing bulk comb honey.

To make sales I load up my wagon with pails and start out. When I reach my first prospective customer I approach him something like this:

"Good morning. Can I sell you a nice pail of honey this morning?"

Then, without waiting for an answer, holding the pail I am carrying in one hand, I take off the cover with the other hand and hold it so as to bring the nice combs of honey into view. As his eyes rest on the honey his hand involuntarily goes to the vicinity of his pocketbook, and he remarks, "That *does* look nice. How do you sell it?"

The price is then stated, the money is paid, and, after a "thank you" and a cheerful "good day, you will want some more when I come again," I pass on to the next.

After I have sold a customer a pail of bulk comb honey he is sure to want more; and I have no trouble in making sales the next time I go that way. It sells equally well among the farmers and the people in town, especially the working people.

Last year I went on the road very little to make sales, as most of the orders were sent in by phone or letter, and many came directly to the house for the honey.

Chemung, N. Y.

FIELD MEETING OF THE MASSACHUSETTS SOCIETY OF BEE-KEEPERS.

BY J. M. LEWIS.

The annual field-day meeting of the Massachusetts Society of Bee-keepers was held July 23 at Stoughton, on the grounds of Mr. Henry W. Britton, who has a beautiful pine grove situated on a slope just back of his residence, half a mile from the railroad station. Automobiles were in waiting

for incoming trains to take arrivals to the place of meeting. The day was ideal, and the place beautiful. The members of the society and invited guests were heartily welcomed by Mr. Britton and the president.

We were conducted to the bungalow shown in the picture, where all were requested to register their names.

The gentleman on the right in the photo of the bungalow is Mr. Henry W. Britton, who entertained; the other, his brother, the president of the society, Mr. E. Clinton Britton.

A large number were in attendance, as shown in the group taken in the grove.

Samples of honey and bees in observation hives were on exhibition in the bungalow.

Parties were shown to Mr. Britton's house, and invited to the attic, where he has bees in observation hives, and a fancy queen that has taken several prizes at fairs, and valued at $100. At the hour for luncheon, coffee and ice cream were served in the grove, furnished by Mr. Britton, which, if one could judge by the quantity that was consumed, was highly appreciated and enjoyed.

Meeting for business was called to order shortly after 1:30 by the president, who, in a few pleasant words, welcomed those present, and then presented several names who had applied for membership.

After the routine of business, Prof. Wm. P. Brooks, Director of the Massachusetts Agricultural Experiment Station, was introduced and gave a very interesting address on honey-plants and how to grow them.

The president, Mr. E. Clinton Britton, told how to handle bees without protection, and Mr. Henry W. Britton wore an old-time stovepipe hat with a small hole cut in the front, containing a swarm of bees which appeared to enjoy their quarters, and seemed perfectly at home, as they were constantly going in and out as if they were in permanent quarters. The writer was obliged to leave the grounds before the program was fully carried out, but felt amply repaid for going.

North Westport, Mass.

HOW THE QUEEN MAKES THE PIPING SOUND.

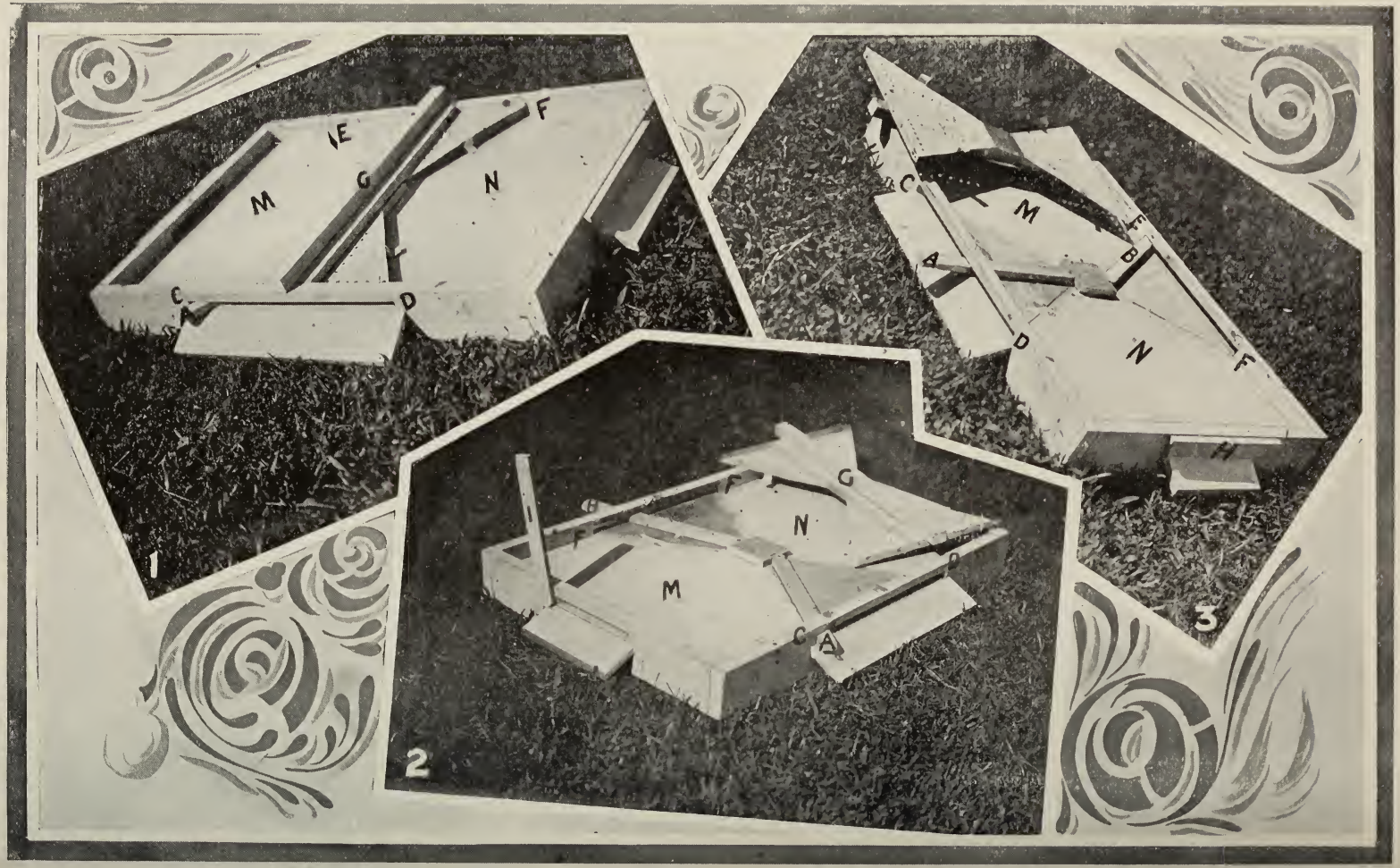
BY O. B. METCALFE.

In GLEANINGS, 297, F. Dundas Todd says his friend Mr. Russell has witnessed the piping of a virgin, and that he is sure that the sound is made in the thorax. He is mistaken. He no doubt made his mistake by not being close enough in his observations. To make this piping sound the queen crouches close to the comb, stretches out her neck, and buzzes the tips of her wings. The rest of her wings she seems to hold still and perfectly rigid. Nor does she spread them out, but holds them as in a crawling position. Almost any bee-keeper with real good eyesight can settle this question for himself by taking some old queen he is about to kill, and, in the heat of the day, when there is a good honey-flow, placing her on a frame of bees and brood from a strange hive. I have noted that about one out of ten will begin the piping within a minute. I believe she makes the sound when frightened.

INTRODUCING A VIRGIN TO A LAYING-WORKER COLONY.

On page 466 the question is asked whether laying workers will not fly back a hundred yards if shaken out with the rest of the bees that far from the stand. I have practiced

ANNUAL FIELD MEETING OF THE MASSACHUSETTS SOCIETY OF BEE-KEEPERS, STOUGHTON, MASS., JULY 23.



J. E. HAND'S DOUBLE BOTTOM-BOARD FOR CONTROLLING SWARMING, MAKING INCREASE, ETC.
By means of the levers A and B the flying bees may be switched from one hive to another.

FIG. 4.—HAND'S BOTTOM-BOARD IN OPERATION.

this plan, and I think it practical at any rate.

This reminded me of the plan Mr. Pritchard mentioned, of introducing queens by shaking the bees out in front and running the queen in with them. If, some time, a bee-keeper finds more than one virgin in a hive, as he often will, or if he has virgins on hand and he knows of a hive in the yard with a laying worker, he can kill two birds with one stone by shaking the bees all out of their hive some 75 or 100 yards away and running the virgin in with them as they return. It is not a sure way of introducing a virgin in such a hive, but it is the best plan I know unless a ripe cell is given in a protector.

Mesilla Park, N. M.

PERFECT CONTROL OF BEES WITH ECONOMY OF LABOR.

A Double Bottom-board Having a Switch Capable of Shifting the Bees from One Hive to the Other.

BY J. E. HAND.

For generations the outside world has looked upon bee-keeping as a hazardous pursuit, and these outsiders can hardly be blamed for entertaining such erroneous ideas when up-to-date bee-keepers acknowledge their inability to control the swarming impulse of bees with any thing like economy of labor. When bee-keepers learn how to control their bees by economical labor-saving methods, the pursuit of honey-production will stand upon a solid basis as compared with other business ventures.

As many of the readers of this journal already know, the writer has for several years been engaged in an earnest endeavor to solve the problem of swarm control with economy of labor. Our efforts have not been in vain; for after much experimenting along many lines we have at last discovered principles by which bees may be controlled with the same precision and certainty that the expert engineer controls his engine, and with an economy of labor that renders the new system well nigh automatic in operation. Results that formerly necessitated an almost endless routine of shaking and brushing bees, interchanging hives and brood-chambers, clipping queens, etc., are now obtained in the highest state of perfection in a much easier manner.

The simple equipment is incorporated in a bottom-board, Fig. 1, which is adapted for use with any hive having a loose floor. This bottom-board is double, and wide enough to accommodate two hives side by side separated by a one-inch strip. A rim around the outside forms a one-inch space under the frames. On each side, centrally located, is a main outside entrance, ½×12 inches, CD and EF, Figs. 1, 2, and 3, each leading through a short covered passageway to two inner entrances, each having a capacity equal to the outside entrance. These inner entrances are opened and closed by switch levers, A and B, the inner ends of which are pivoted to the bottom-board, and work in a socket in each end of a central "frog," the outside protruding from the main outside entrances.

When a switch-lever is thrown either way from a central position the inner entrance to the hive on that side is closed while the one to the hive on the other side is opened without changing the position or appearance of the outside entrance, as this is always open full width.

Fig. 2 shows the "switch-board" with the covered passageway, G, removed, showing the position of the switch-levers A and B, and the central "frog."

On each end, centrally located, is an auxiliary entrance ½×6 inches, provided with a cut-off, I, Fig. 2, to be opened and closed as occasion requires.

Fig. 3 shows one of the auxiliary entrances closed with stop H, also the covered passageway turned bottom side up, showing the ventilating-holes and the feet upon which it

C. C. SCHUBERT'S APIARY, SEPELVEDA CANYON, CAL., DESCRIBED BY MRS. ACKLIN, AUG. 1, PAGE 477.

rests when in position, The equipment is the same on both sides, and is always in position ready for instant use. It does not in the least interfere with the free passage of the bees, nor conflict with any manipulation by the apiarist. To render the equipment doubly effective there is a system that goes with it which will be described in another article.

Perhaps a bit of history relative to the colony shown in Fig. 4 may be of interest. This colony was placed upon the switch-board June 18, having previously developed the swarming fever to the highest pitch. On the day mentioned, it cast a swarm which, having a clipped queen, returned, and with it a part of two other swarms that were out at the time, the hive being completely covered with bees. In this condition it was placed upon a switch-board. The next day the field bees were shifted over into an empty hive by the new system. Ten days later the swarm thus made was reinforced by another shift. At the close of the harvest, July 12, the field bees were shifted back into the original hive, and worked for cell-building the rest of the season.

At the time the picture was taken, July 30, the five supers on this hive, as well as the one on the hive by its side, were chock full of beautifully white-capped honey built from foundation, making 100 per cent increase and 150 lbs. of honey, all within 25 days, which is not so bad when we consider that the yard contained 200 colonies, spring count, with a far from good location. The time spent in manipulation did not exceed ten minutes aside from putting on supers.

This colony is a fair sample of all the others that were worked by the new system, which shows what may be done with bees by applying correct principles in harmony with their instinct, which is the magic key that will unlock the doors of every avenue that leads to the perfect control of bees with economy of labor.

Birmingham, O.

(To be continued.)

A SELF-MEASURING FAUCET FOR HONEY-TANKS.

BY JOHN G. COREY.

Thirty-five years ago, when I became a producer of extracted honey by the carload, I found that the largest syrup-gate to be procured in the market would not allow a ton of the heavy honey we were producing in Ventura Co. to pass through it in less than three hours. This slow process not being satisfactory I availed myself of my knowledge of labor and time saving appliances by procuring a measuring faucet made by the Enterprise Mfg. Co. With this device I could draw off and case up a ton of heavy honey inside of an hour. The faster the crank is turned, the shorter time is required to fill the can. The dial is adjustable; and if the can, as it comes from the factory, should hold a pint or a quart over or under the 60 lbs. desired, the dial can be moved to zero for each can, and five-gallon cans can be filled rapidly, and so as not to vary four ounces each for the whole crop.

Santa Barbara, Cal., Sept. 27.

BEES KEPT IN A TOWN WITHOUT ANNOYANCE TO NEIGHBORS.

BY ARTHUR RHOADS.

The apiary shown in the engraving is in the heart of the town, and the bees have never given any trouble to any one. The colonies are all in standard eight and ten frame hives, each group of five resting on cement bases, which have proved to be very satisfactory.

Coyle, Oklahoma.

WHAT IS THE PROPER PACKAGE FOR RETAILING HONEY?

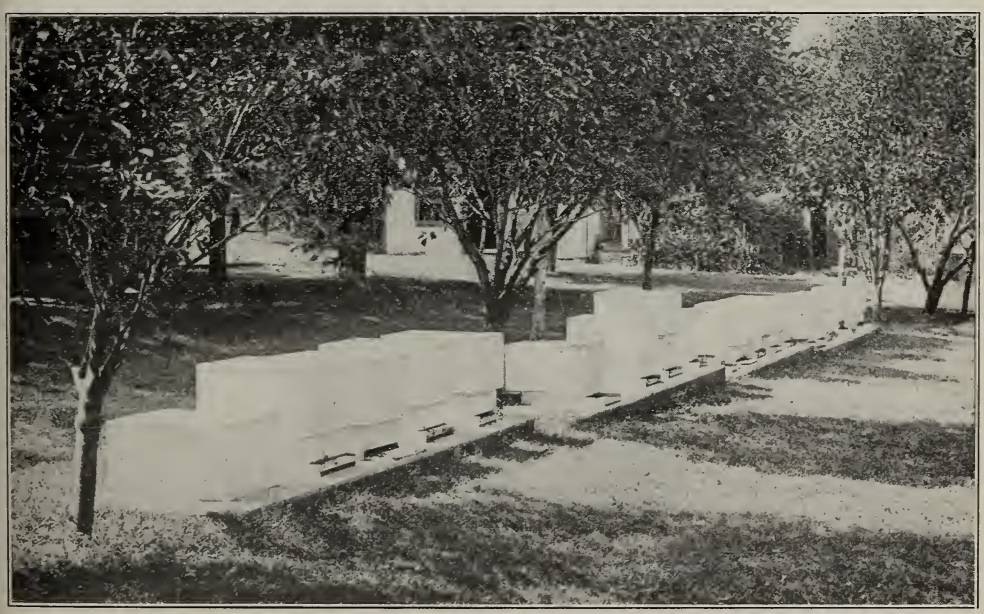
BY GEORGE SHIBER.

There has been a good deal said lately on the subject of selling and extracting unripe honey. I feel that this is important, and personally I wish that the time might come when not an ounce of honey could be extracted until ripened. Honey should weigh about 12 lbs. to the gallon. What happens to honey when it leaves our hands? For instance, a man buys a gallon of honey in a pail without a cover. Perhaps he tries to keep it covered up; but, after having it a few weeks, it absorbs a little moisture, then the flavor is gone. A year or so ago I sold one party about 25 lbs. of honey, putting it in a tin water-pail which he brought for the purpose. A few months later this man told me that the honey had soured; and after some questioning I discovered that he had put it in a cellar with a single thickness of newspaper over it. Of course, honey would sour under such circumstances. Lately, I am in the habit of impressing every customer with the great importance of keeping the honey sealed up air-tight *all the time.*

THE 60-LB. CAN TOO LARGE.

I am coming more and more to the belief that the 60-lb. can is too large for family trade. In the first place, it is no easy task for an inexperienced person to pour out a pound or so of honey from such a can; and if a good big lot does not drizzle out on the carpet or floor it is a wonder. In time the operation of getting the honey out of the can comes to be dreaded. Then when the honey is about two-thirds gone the rest will have candied; and in order to liquefy it a wash-boiler has to be utilized. In view of all this the chances are that the consumer will no longer bother with it; and next year, when he is approached by the bee-keeper, who wants to sell him another can, he refuses, for the reason that he still has some of that purchased last year. Sixty pounds at one time is too much for the average family. They get sick of the honey before it is gone. Honey is good to eat, as scripture informs us, but we should not stuff our customers until they are sick of it.

Well, after having had the above experience I finally began using the one-gallon tin cans holding 12 lbs. I charge 10 cts. per lb. to every one, and sell the gallon cans for $1.30 each to cover the cost of the can. I am quite sure that I could get $1.35 just as easily. Anyhow, if we do not ask a price somewhere near what an article is worth, we certainly won't get it. The gallon can has given the best of satisfaction. I never agree



CONCRETE SLABS AS FOUNDATIONS FOR FIVE HIVES EACH.

KELLY M'LAUGHLIN'S RESIDENCE AT HALF DAY, ILL., THE WALLS OF WHICH CONTAIN MANY COLONIES OF BEES.

to take the can back for 10 cts. I tried it, but have quit doing it, the objections being too numerous to mention. Many people, when told that they may bring the can back and get 10 cts. for it, will want to give only $1.20 and then agree to bring back the can. Perhaps most of them will do it, but the cans are often unfit for further use.

Twelve pounds is not an extravagant amount, and this will soon be gone, so that they will become honey-hungry again and want more. Honey is cheap food too. I notice that one of the leading mail-order houses in Chicago charges $1.58 per gallon for white honey.

AN EASY WAY TO REQUEEN.

Many times, when I wish to requeen a poor or otherwise objectionable colony, the bees make way with the new queen before she begins to lay. I am satisfied that the old bees are at fault. So, at the close of the clover flow or during the fore part of August, after having destroyed the queens of such colonies as I wish to requeen, I carry the hive to a new location. The next day I give a cell, a virgin, or laying queen, and in either case I find that the queen has commenced to lay promptly on time, so that the colony is in first-class shape for winter. It is true that the flying force is lost; but such bees will occupy some hive near by, and gather as much fall honey as though they had worked in their own hives. I follow this plan with all colonies to which I wish to introduce purchased queens. The old bees are not of very much use after the flow is over, anyhow, and they certainly make bad work when an attempt is made to introduce a new queen.

Randolph, N. Y.

[We use honey in our home constantly, so we surely practice what we preach. It is

C. J. DIEHL'S SHED APIARY OF BOX HIVES, STETLERSVILLE, PA.

surprising how quickly a one-gallon can is emptied; the contents do not have a chance to candy. But with the 60-lb. can, the last of it goes very slowly, for it is either candied or so nearly solid that it will not run out.—Ed.]

A HOUSE FULL OF BEES.

Migratory Bee-keeping on the Mississippi River 25 Years ago.

BY J. L. GRAFF.

Sometimes we find some queer habitation of bees and some unexplored depositories of honey. Up to this time no one knows just how many colonies of bees nor how much honey is sheltered by the tumbledown house shown in the accompanying picture. It is the home of Kelly M'Laughlin, at Half Day, Lake Co., Ill., and he and the bees have the whole place to themselves. Years ago the bees began making their home in the old house, getting in through knot-holes and apertures caused by breakage of the weather-boarding. Old timers say that the bees have been at work in the place for eight to ten years. There have been swarms and considerable excitement at times, but no one has interfered with the little workers.

Kelly lives alone in the house. Some of his friends have endeavored to induce him to investigate, believing that a great quantity of honey is stored in the place; but he will not allow the bees to be disturbed nor any of the honey taken away. However, it is now claimed that the place has been sold, and the new owner may have different ideas about the matter. The whole neighborhood is curious to know what the outcome will be. Many claim that the bees have stored honey sufficient to meet only their wants, while other knowing ones stick to it that the honey-makers have allowed no rich bloom to go to waste.

There is another house at Ivanhoe, which forms a hive for bees, and there are like conjectures as to what an investigation might reveal.

One of the most interesting exhibits in this same region of Lake Co. is a picture in the home of A. Grabbe, at Libertyville. The picture shows two large coal-barges fitted out with five decks each. The barges formerly were used to transport coal from Pittsburg down the Ohio River to lower Mississippi points. They were rebuilt for a honey-gathering expedition, and each barge held on its five decks no less than 1000 colonies of bees. Back of the barges is shown a powerful steam tow-boat.

This expedition was fitted out more than twenty-five years ago by C. O. Perrine, Mr. Grabbe being associated with him in the venture. The project was to move the barges along the banks of the Mississippi River at night and stop near rich fields of bloom through the day. On the upper Mississippi the bees worked on basswood and clover; but on the lower river they had to depend on the willows that lined both banks. Mr. Grabbe says that, while a great quantity of honey was gathered from this region in later years, the boat project did not pan out, and it was tried but one season. It was unfortunate that they got started five weeks behind the season, and the expense of keeping and paying and feeding two full steamboat crews brought the projectors out at the little end of the horn. The willow product had to be mixed with corn syrup in order to make it palatable at all. But on this trip, which cost more than $20,000, the possibilities of the region were found out, and, later on, large shipments of bees were made by rail to several different localities from which a paying quantity of honey was gathered. Mr. Grabbe for years engaged in the bee business, and is one of the best-known apiarists in Illinois. He is now the owner of a fine flowing well of water from which he supplies hundreds of householders living along the north shore of Lake Michigan.

Ravenswood, Ill.

WINTERING COLONIES IN BOX HIVES INSIDE A SHED.

BY GEO. H. REX.

The hives shown in the engraving are owned by Chas. J. Diehl, of Stetlersville, Pa. Mr. Diehl makes his own hives, which are very large, with a removable floor in the middle. Frames are used in the lower part, which is the brood-chamber; but no foundation is put in, hence the combs are built irregularly to such an extent that the frames can not be removed.

In the back of the hive is a pane of glass as large as the brood-chamber, covered with the wooden back of the hive, which is hinged to the main part. Ordinary sections are placed in the upper portion of the hives for comb-honey production. Mr. Diehl's crop this year was good.

Stetlersville, Pa.

REPORT OF THE NATIONAL BEE-KEEPERS' CONVENTION.

A Large and Enthusiastic Meeting Held at Albany, N. Y., Oct. 12, 13.

BY W. A. SELSER.

WEDNESDAY MORNING.

The first session of the convention was called to order at 10:45 by Pres. Geo. W. York, with 250 delegates in attendance. It was the largest meeting the Association has ever had, with the exception of the one at Detroit in 1908.

General Manager N. E. France allotted numbers to the various members. After this a paper was read from Mrs. S. Wilbur

Frey on the subject, "What a Woman can do with Bee-keeping."

The next paper was by F. B. Cavanagh, of Hebron, Ind., on the subject, "Bee-keeping as a Business." This created quite a discussion, Mr. W. L. Coggshall claiming that he could make a living with bees without any trouble. Wm. Coswell, Jr., stated that he took $1000 worth of honey from 140 colonies, one colony yielding 165 lbs. of fine comb honey. Mr. J. E. Crane said that bee-keeping as a business paid better when extracted honey is produced. Texas was considered the most successful State for conducting bee-keeping as a business. Meeting adjourned at 12:10.

WEDNESDAY AFTERNOON.

The afternoon session was called to order by Pres. York at 1:50. Mr. Orel L. Hershiser was appointed chairman of the Committee on Resolutions; J. E. Crane, chairman of the Committee on Nominations; N. D. West, chairman of Committee on Rules. By the way, the following rules were submitted for conducting the convention: First, that members only should take part; second, that they should take part but once; third, that the president should judge the time to be taken by each member.

J. L. Byer read a paper on the subject, "Extracted Honey from Nectar to Market." Mr. Byer is a very bright fellow, and his paper was good. He said in part: It is better to raise extracted honey for table use instead of for manufacturers, as better prices are realized. Strong colonies are essential. Full sheets of foundation should be put in within a day or two of the time they are to be used, as foundation deteriorates when placed in the frames too far in advance. Supers should be tiered up four or five high, as one super does not give the best results. Honey should always ripen on the hive. The suspicion of extracted honey is fast disappearing. Mrs. Byer uncapped 30,000 lbs. of honey herself last season.

The following points were brought out by a discussion. By agitation dealers can be induced to handle more honey. Glass increases weight, but is better than tin. It is advisable to sell honey by the dollar. (One party said he sold 7 lbs. for one dollar.) If one can not get more than seven cents for honey he had better quit the business. Never cut under a competitor in the open market.

The next paper, "Bulk Comb Honey and its Future," by Louis H. Scholl, was read by a stenographic reporter, as Mr. Scholl was not present. Texas goes ahead on the matter of bulk comb honey, which is forming a new era in bee-keeping. This State has also made some rapid strides in the last year in putting up honey in jars with comb in the center. The long narrow jars are better, for by their use much more of the comb shows. This paper was discussed very generally. Mr. Harry Lathrop was in favor of bulk-comb-honey production in any locality. He said that honey heated and then strained would not candy quickly. Mr. Hershiser thought location a very large factor.

A paper, "Ripening Honey on Hive," by W. P. Southworth, was read by N. E. France. Mr. Southworth thinks it wise to leave honey an entire season on the hives, as it is well ripened and better flavored at the end of the season. Flavor is a very important factor, and can be obtained only after months of ripening. A humid atmosphere causes honey to ferment and spoils its flavor. Unripe honey should be placed in a large tank and drawn off from the bottom.

WEDNESDAY EVENING.

President York asked Vice-president Wright to preside at the evening session. Mr. York read his address, in which he made some recommendations that created quite a lively interest; in fact, the sentiment of this address pervaded every session that followed. The following, in brief, are some of his remarks: The twelve members on the Board might easily be cut down to five, as it takes too long for the General Manager to write these various directors to protect bee-keepers against the law. This is not so necessary as formerly. To prevent adulteration is also not necessary, as the pure-food law attends to this. The essential thing is to promote the interest of the bee-keepers. State associations should be branches of the National, and not independent as they are now. Each State should elect one or two members, and the committee thus formed should be the law-making body of the whole, the expenses being taken out of the general fund. Minor matters, such as honey production, marketing honey, etc., should not be discussed at the National convention. Co-operation in marketing honey, however, would be a very profitable theme for discussion. At every State meeting there should be a member of the National Association present. One good energetic man should be employed to give his whole time to organizing bee-keepers — unless something like this is done there might be a new national association promoted to take the place of the present one, and this we should not like to see, so we must be progressive. There should be a good lecturer on the road to tell the people something about bees and their value, and also to advertise honey. There should be a National brand on every package of honey put up by its members. The man who gives his whole time to the work should know the condition of every large market in the United States. At the present time, some of the markets are overloaded while others are short. This paper called forth tremendous applause.

Mr. J. E. Crane, chairman of the Committee on Nominations, called a meeting of the Nominating Committee, which was composed of one member from each of the twelve States represented, the writer representing Pennsylvania. The following nominations were announced: For President, Geo. W. York, N. V. Facey; for Vice-president, W. D. Wright, Thos. Chantry; for Secretary,

Dr. Burton N. Gates, E. B. Tyrrell, Louis H. Scholl; for Directors, H. A. Surface, James A. Stone, Robt. A. Holecamp, Orel L. Hershiser, F. Wilcox.

Mr. S. D. House read a paper on the subject, "Comb Honey from Nectar to Market." Among a good many things he said: Strong colonies, good appliances, and contentment of bees are necessary. Keep the colonies large. Give the fourth super, taking away the third when putting on the fourth. Fumigate with carbon bisulphide. Mr. House also explained his plan of using the wire separators.

The next was an address given by F. H. Cyrenius, on "The Comforts and Conveniences of an Apiary." Mr. Cyrenius showed a number of little kinks of his own get-up, one being a bell that would ring when a 60-lb. can was filled with honey. He also demonstrated how to overcome robber bees by working under an umbrella tent. He has a large 5-ft. wagon-umbrella with mosquito netting all around, which he carries with him and sticks into the ground when he wants to work over a hive. He suggested painting all tools white so that they may be easily found when mislaid.

Geo. B. Howe read a paper on the subject, "Selection in Breeding to Increase the Honey Crop." Drop the question of beauty and breed for honey-gathering qualities only. Italian bees are the best. The varying vigor of the bees in the honey-flow makes a difference of many hundred dollars in a large apiary. Some will fly in the rain, and when it is cool, while others will not. The size of the wing is also an important factor. Many bees do not fly half as far as others. Stick to the dark Italians. (I considered this paper among the best read.)

THURSDAY MORNING.

F. J. Root read a paper entitled "Advertising to Create a Larger Demand for Honey." The output could be increased sixfold if properly advertised. Five thousand members might pay three cents per day, and this amount used for advertising each year. Show-windows should be filled with attractive glass and comb-honey packages. Honey should be sold from a wagon in the streets. This subject was discussed by Mr. L. C. Root, James A. Stone, P. H. Elwood, and others.

A paper, "Co-operation Among Bee-keepers," sent by Mr. F. Rauchfuss, of Denver, Colo., was read by N. E. France. Mr. Rauchfuss compared the price of honey with bee-supplies 23 years ago. He said that in 1887 sections were $4.00 per 1000 and shipping-cases $6.00, while in 1910 sections were $5.50 and shipping-cases $9.00. He thought that, since bee-keepers got twenty per cent less for honey than the price 23 years ago, the members should not be compelled to buy or sell supplies unless some advantage could be shown by it. I replied to this paper by stating that there was surely a misunderstanding somewhere, as it was not true that supplies had increased while honey had decreased. I stated three examples. Fifteen or twenty years ago I bought a car of buckwheat honey at 3⅞ cts., while to-day two cars sold at 7 cts. At the same time, I bought in Wisconsin fancy white-clover extracted honey in barrels at 5½ cts., and at the same price contracted for several cars. The bee-keepers at that time had not been getting over 4⅞ to 5 cts. for the same honey; to-day that same honey brings 8 to 8½ cts. I remember buying good comb honey some fifteen years ago at 12½ and 13 cts., that same honey to-day bringing 16½ cts. Mr. Hershiser replied to my statement by saying that, years ago, he could buy a horse for $40.00 and wheat for 43 cts. a bushel. Now, while farmers and bee-keepers still need horses and wheat, they have to pay several hundred dollars for one horse, and over $1.00 a bushel for wheat. Relatively, honey does not bring nearly as much as it did, because a pound of honey does not buy as much for the bee-keeper. Mr. Weber supported my remarks, and then asked the president to call on Mr. Segelken, who had come in about an hour before. Mr. Segelken also endorsed and emphasized my remarks.

Mr. Orel L. Hershiser made quite a report on the president's address, the practical outcome being that it was referred to the Board of Directors for action.

Dr. Burton N. Gates spoke of the disintegration of the National Association, and said that we should make it more educational in its nature. This created some discussion, Mr. Hershiser saying that the Association had made many rapid strides in the last few years.

Mr. James A. Stone described the best foundation for a bee-hive.

Charles Stewart was called on to give the best treatment for foul brood. He said that, sooner or later, this disease would reach every apiary in the land, and he claimed that keeping the colonies strong and using the dark Italians was the best advice he knew of in a general way to give to bee-keepers. He did not mean that, in this way, foul brood would be eradicated, but that it would be a large factor in keeping it in check. He explained by saying that foul brood first starts in an apiary by the bees becoming weak in vitality as well as in numbers. The weak colonies should be united, and thus got rid of. Black bees are poor caretakers. Mr. McEvoy also said that Italianizing is the best single remedy he knew of. Mr. West advocated giving a colony a new Italian queen when treating disease.

THURSDAY AFTERNOON.

Mr. Hershiser's former report on the president's address was supplemented by another report at the opening of this session. It was recommended that the Board of Directors use the funds of the Association in organizing county and State associations; that the directors take immediate measures to carry out the various recommendations in the president's address. It was also rec-

ommended that the report of the National convention be put in more condensed form, boiled down, and reduced in size. It was urged that the directors recommend a change of constitution wherever it may be necessary to carry out the president's recommendations.

The Resolution Committee thanked the council chamber and the sexton, as well as Mr. M. D. Wright. There was a resolution of sympathy in case of the sickness of W. Z. Hutchinson and G. M. Doolittle. It was recommended that the General Manager's salary be increased. It was resolved to urge Congress to forbid the increase of freight rates on honey. Another resolution recommended changing eight pounds of honey to the gallon to twelve pounds, which is the national standard.

Mr. F. H. Cyrenius, in a paper, "When and How to Requeen with a Fall Honey-flow," suggested several ways of getting better queens.

In the paper by Wesley Foster, on the subject, "Methods of Retailing Honey," it was claimed that individual families could use 120 lbs. of honey per year, and a house-to-house canvass was suggested, orders being taken through the grocers. Demonstrations in stores with a good window display were also recommended.

A paper from J. J. Wilder, on "Southern Honey Production," was read. In this was mentioned saw-palmetto, mangrove, and several other of the chief sources of Southern honey. Mr. Wilder thought that bee-keeping in the South was growing. He also stated that in the South most of the honey might be sold right on the ground.

Mr. J. E. Crane spoke of feeding bees between fruit-bloom and clover. In 1910 he said he fed 1000 lbs. of sugar and 500 lbs. of honey, and feels sure that in feeding this amount he realized from 15,000 to 20,000 lbs. of honey.

Invitations for the next meeting were received from Ontario, New York, and Minnesota.

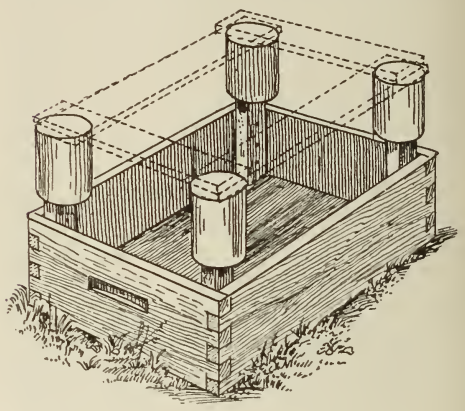
A STAND THAT WILL KEEP ANTS OUT OF HIVES.

BY J. M. CALDWELL.

To the numerous inquiries as to how to keep ants out of hives, why not take Josh Billings' advice as to bedbugs—"just kill 'em all"? The best way to kill ants is with the oft-repeated remedy, i. e., bisulphide of carbon. However, there are places which, for one reason or another, it is almost impracticable to kill off the ants; and then the apiarist needs a hive-stand that will exclude them.

The engraving shows one of my hive-stands complete and ready to have the hive placed upon it. It is nothing but a table turned upside down, and an empty tomato-can, with the top melted off, inverted over each table-leg. The ants can crawl up the table-leg and all around on the inside of the can, but they can not make the turn around the lower edge of the cans, and come up on the outside of cans and thus reach the hive.

The space between the table-legs and inside of cans must be at least half an inch; but the cans rest on the ends of the legs.



HOW TO MAKE IT.

Just take an old super or box. Cut four pieces 2×2×12, and nail one in each corner. Round off the projecting edges, then melt the tops off from four tomato or peach cans (3-lb. cans are best); then invert a can over each leg and nail cross-pieces on top to brace the legs with, and for the hive to rest on; but be very careful not to allow any holes in the sides of the cans that the ants can crawl through. This works on the same principle as the tin pans used on posts under corncribs to keep out mice—no patent on it either.

Putting the legs of the stand in basins of water or oil will drown the bees when the wind blows, and they miss the alighting-board and fall down at the corners. At one time I had fifty hives on stands with the stand-legs in water. I also tried oil.

Here is something which I have never seen in print. Ants carry out the queen, bees, and eggs from the cells. A few years ago the question was being discussed in GLEANINGS, "Do bees transfer eggs from one cell to another?" That gave me an idea, as I was having trouble with the ants in the hives, bees cross and not doing well; and I thought if bees could transfer eggs may be the ants could too. So I went to watching them, and, sure enough, they were carrying away eggs as well as honey. No wonder the bees were cross!

Yzabel, Mexico.

How to Keep Ants Out of Hives.

You are asked, now and then, how to keep ants out of hives. This is my way: I keep a bucket of Beaumont oil in the bee-yard, with a paint-brush in it. When I find ants bothering a hive I brush the oil at the lower edge of the hive and on the bottom-board. The ants crawling around on the hive I dab with the brush; and the oil which adheres to the bristles will kill them. This makes a white-painted hive look a little bad; but it is better to have the hive-body look bad than to lose the bees. Oil is cheap, and the work is done quickly.

Fort McKavett, Texas, July 30. J. A. RUFF.

Heads of Grain

from Different Fields

Investing in a Good-sized Apiary at the Start.

I should like to ask Mr. A. I. Root a question. I have been keeping bees in a small way for twenty years. I like them, and have read GLEANINGS and other bee-publications for a long time. Now, Mr. Root, would it be a safe investment for me to put $500 in bees? Could a man with just himself and wife make a living with 100 to 150 colonies if the location is good? I understand the man and location are every thing.

Sandwich, Ont., Sept. 20. ELI E. WRIGHT.

[Many thanks, my good friend, for the confidence which you seem to have in A. I. Root. In answer to your question I would say, by no manner of means put $500 into bees to start on—that is, unless you have had a good deal of experience in managing a large apiary. Years ago my neighbor, E. B. Rood, down in Florida, wrote and asked just about the question you propose. I told him to begin on a small scale and build up as he got experience, and not think of investing heavily at the outset. Well, that was years ago. A few days ago he told me he had felt indebted to me all his life for that advice, given when it cut off the prospect of selling him a lot of goods at that time. He now has half a dozen out-apiaries and several hundred colonies, and is doing a good business with bees; but if he had invested as he thought of doing when I gave him that advice, he said it would, without question, have ended in disaster.—A. I. R.]

A Virgin of a Supersedure Colony Going into the Wrong Hive.

I have a colony which has superseded its queen. Last evening I found a virgin dead in front of another hive, and this morning the bees of the superseding colony were running about in front of the hive, acting as if queenless. Now, my bees have stopped rearing brood, so how can I tell for certain whether they are queenless? I can find no cells nor young brood in any hive.

Westfield, N. Y., Sept. 30. F. L. WHEELER.

[It seems reasonably clear that the virgin queen, when she left the hive of the superseding colony to take her wedding-flight, on returning went into the wrong hive and was killed. This, of course, left her colony queenless. In all probability — in fact, we may say you could be reasonably certain that the superseding colony is now hopelessly queenless, unless, indeed, you could find that the old queen is there, which is hardly probable, considering the behavior of the bees.

We would advise introducing a laying queen, which you can get through the mails. Introduce in the regular way except this — that, when she is released, watch the behavior of the bees toward her. If they ball her upon releasing, after she has been caged for three or four days, the presumption is that the old queen is in the hive. But before you send away for a queen look the hive over several times, taking an hour for it in the forenoon and perhaps an hour in the afternoon. If you do not find any thing that looks like a queen you may rest assured that the colony is queenless.—ED.]

The Efficiency of Different Races Depends on Locality.

Our season was one of disappointments. The early spring gave the bees the best start ever known, and we had visions of supers piled high. However, during fruit-bloom and white-clover season the colonies were on the point of starvation, and for six weeks death stared the bees in the face. Since that time there has been a wonderful change, and we have had to hustle. Some of my Banat colonies are in their fourth super of 32 sections each, the sumac and buckwheat being in full blast, with goldenrod and asters to follow.

Our locality here is wooded, a strip from ten to fifteen miles wide extending from the Massachusetts line, and running on the eastern border of Connecticut and the western border of Rhode Island to Long Island Sound. It is what might practically be called a wilderness. Bee-keepers here have tried the Italians, but have largely discarded them. Moreover, it is the common expression of bee-hunters that they never find an Italian colony with any honey worth mentioning. My blacks and their near cousins are, as usual, leaving the Italians far behind. On the other hand, it is highly probable that for the West, and open countries, and where the nectar sources are more abundant, the Italians certainly do excel. If it were not so they would be discarded as a matter of course. If the Italians paid as well I would keep no others, for I love to see those beautiful yellow bees.

Oneco, Ct. T. B. MOWRY.

Wintering Outdoors in Wisconsin.

Last spring I bought thirty colonies of bees, and I want to know how to winter them outdoors. I am accustomed to bees, but I never could make a success of wintering. The bees are in double-walled hives with four-inch space all around. Each hive has a four-inch super, packed with sawdust, also the flat summer cover. Which would be preferable? I can make a Hill device of barrel-hoops, to put under the sawdust cushion, if needed, and then put a cloth or paper over that.

Would it be desirable to contract the brood-chamber at the risk of leaving too small an amount of honey in the hives? Each hive contains about 40 lbs. of honey now.

Evansville, Wis. R. W. STANDISH.

[We do not believe that you will have much difficulty in wintering those colonies if they are in the condition you say they are. It would be well, however, to select a place that is sheltered as much as possible from the prevailing cold winds. If you have had difficulty before in wintering outdoors it might be that the stores were not of good quality. If the honey is dark and of inferior flavor, it might be best to extract it and substitute sugar syrup.

Here in Medina we use sealed covers — that is, thin super-covers under the chaff-tray. Usually a more porous packing than sawdust, such as chaff, planer-shavings, or ground cork is to be preferred.

It depends upon the size of the colonies whether any contraction is necessary. It does not pay to winter a weak colony on more combs than the bees can cover well. It is best to err on the safe side, and have too much honey in the combs rather than not enough.—ED.]

Screening Hives in a Cellar.

My bee-keeping experience has just started. I have twelve colonies in No. 1 condition for another year. I want to put them in my cellar this winter. I have a furnace; and the vegetable-room, where I should like to put the bees, is dry, having a temperature of about 45°. Would it be advisable for me to put a wire screen over the front of the hives so as to keep the bees in? I do not want to let them out in the cellar.

Leonardsville, N. Y. C. L. CRANDALL.

[We believe that this room will be a suitable place for your bees, but we would not recommend the use of wire cloth over the entrances. We have tried this plan quite thoroughly, and we have found that the results are far from satisfactory. If you can control the temperature of the cellar, and see that the air is fresh, we do not think the bees will bother you to any great extent about leaving the hives; but it will be necessary for you to have the room darkened.—ED.]

Combs of Honey versus Sugar Syrup for Winter Stores.

I find that my brood-chambers are almost empty of honey, the bees placing practically all of it above the excluders in the supers. For winter would you advise me to feed sugar or to use sealed combs, of which I have a plenty?

When would be the best time to put the sealed combs into the brood-chambers?

How would it do to winter in two ten-frame bodies, leaving the empty combs in the lower one, and having the sealed honey in the upper one?

Poltimore, Quebec. R. R. RABB.

[It would be all right for you to insert the combs of sealed honey, as honey is necessary in your hives for winter; but unless you have no extractor, and

therefore no way of disposing of the honey profitably, we should think that it would be cheaper for you to sell the honey and to substitute stores of sugar syrup. There is nothing better than good sugar syrup for winter, and it is best to feed the best granulated sugar mixed with about one-third its volume of water, warmed enough so that it will dissolve readily, but not boiled.

It would not be too late to put in the combs of honey the latter part of October provided the bees have enough to live on until that time. We have found that late feeding gives very good results if the syrup is warmed so that the bees take it readily.—ED.]

How to Pack Bees in a Car for Moving a Long Distance.

I have to move 609 colonies of bees by rail, and by the route we take they will be in the cars three days. We will screen the top, and have an empty super on for the bees to cluster in. The brood-nest is full of honey, 40 or 50 lbs. Shall we leave the bottoms on and screen them, or just screen the entrance? Tell us all about shipping bees by the carload, watering them, loading them in the car, and how you brace them to keep them from moving about. You will know what information we want. The bees are all in Root dovetailed hives complete.

Maxwell, Texas, Oct. 3. M. E. VANEVERY.

[We would advise putting on screens only at the top. An entrance screen may or may not be necessary. We advise a screen, both top at bottom, when the weather is hot and the bees are put in a close box car. If some of your colonies are very strong it may be advisable to use a screen at the top and bottom; but an empty super with top screen only, we think, would be amply sufficient for this time of the year at least.

Where so many colonies are shipped it is very necessary that a man go along with the bees. He should be provided with a watering-pot and several square cans of water. If the bees cluster closely on the wire cloth they should be sprinkled. This will drive them off, so that the bees from below can get air.

The hives should be piled one above the other, but in such a way that there will be at least a space of five or six inches between each tier of hives. More space would be better. If possible the aisle-ways between the rows should be so disposed that a man can get to any one of the individual hives. If you can not provide more than about a space of four or five inches between the tiers of hives we would advise taking along a spraying-pump having a small hose attached, so that a stream of water can be directed between the tiers. There is no need of using water unless the bees cluster closely on the wire cloth.

The hives should be securely braced in the rows, and each row should be secured to the other rows by means of cross-ties.

It is very important that the hives be so placed that the frames, if not wired, will be parallel with the rails. A hive can stand a bumping shake end-wise better than it can sidewise. If the combs are securely wired and the frames self-spacing, it won't matter very much how the combs stand with reference to the rails.—ED.]

Pointers on Public Demonstrations.

As I am now making my wire cage for my apiary demonstration at the fair to be given in Winamac, I find it necessary to ask a few questions.

1. The colony of bees will be located in the middle of the street, on a platform, for four days. Shall I leave the top of the cage open except when I am making the demonstration, or would you leave it open at any time?

2. Would you use an extra-strong colony, or just an ordinary one?

3. How many bees in a pound?

4. How many bees in an ordinary colony of Italians?

Winamac, Ind., Sept. 16. M. E. BOND.

[1. The top of the cage should be closed when making demonstrations before the public; but in bee-yard work the top may ordinarily be left open.

2. A medium-sized colony is better than an extra-strong one, for the reason that it is easier to find the queen. We usually use nothing larger than a three-frame nucleus.

3. The number varies according to circumstances. If the bees have little or no honey in their sacs there will be a little over 5000 to the pound. When they are loaded with honey there will be only about 4000.

4. A good deal will depend upon what is meant by "an ordinary colony of bees." In some localities, especially where extracted honey is the object, and hives are tiered up, there might be 10 lbs. of bees or between 40,000 or 50,000. In other localities, where comb honey is the object, and only a single comb-honey super or a single-story hive, we should not expect more than four or five pounds of bees, or anywhere from 15,000 to 25,000.—ED.]

Taking Colonies Out of the Cellar in Hives from which the Bottom-boards are Removed.

My cellar is in sand, and at all times is absolutely dry. My hive-entrances are from ⅜ to ⅞ in., and the full width of the hive. I have no trouble in keeping the temperature above 42° in winter and under or at 50° in the spring. I believe that my bees would be all right in my cellar, without bottom-boards; but can you tell me about putting them out in late spring? Would not the bees be very apt to make trouble? It seems to me that bees, if kept late in the cellar, would move out all over the hive before one could put the hives on bottom-boards outside.

Manawa, Wis. E. E. COLIEN.

[Since your conditions seem to be ideal we presume that your colonies would be quiet with the bottom-boards left on. At any rate, you could put them in that way, and then if you have to provide more air, take them off later in the cellar. It is a good plan to remove colonies from the cellar when the temperature is such that they will not fly to any great extent. A cool day is all right, toward evening; or if you could take them out by night, all the better. If the bottom-boards were off, and if the bees *did* give you trouble, you could set each hive on the bottom-board in the cellar before you carry it out. In fact, that is the usual way.—ED.]

Should Colonies that have been Moved have a Cleansing Flight before being Placed in the Cellar?

I am just building a bee-cellar, 10 x 24, and should like to ask you if it would be advisable to move 100 colonies about 1½ miles and put them directly into the cellar, or should they have a flight? The moving causes the bees to gorge themselves with honey.

Circleville, Kan., Sept. 29. C. S. BORDNER.

[We do not believe it would be necessary for you to give your bees a flight after you move them, before placing them in the cellar. A number of instances have been reported of apiaries moved a considerable distance, and placed directly in the cellar with no bad results.

So far as the bees gorging themselves with honey is concerned, we think that the ordinary moving, as when they are taken up from the summer stands and carried to the cellar, usually, when the hives are bumped around considerably, causes the bees to fill up, probably, as much as yours would in being moved 1½ miles, and so it would seem to us that you could neglect this feature.—ED.]

Wintering Extra Queens.

I have a young queen I should like to keep over until spring. How can I do it?

Canton, O., Oct. 4. F. K. ROBINSON.

[It is a rather difficult matter to winter over an extra queen unless you form a nucleus to keep her in. Even then it requires rather close watching to winter the nucleus safely. In a good cellar you would not have much difficulty. Ordinarily the best plan would be to destroy some old queen in the apiary—one which would not amount to much the next season, and put the extra queen in her place. —ED.]

Interchanging a Laying Worker Colony with a Normal Colony to Get a Queen Introduced.

I had a queenless colony with fertile workers, and I gave the bees a frame of young brood and eggs, but they refused to start cells. I gave them another frame of young brood and changed places with a strong queenright colony, and cells were started at once. I suppose the bees from the queenright colony started them, not being satisfied with fertile workers.

Dunkirk, O. S. LONGABAUGH.

Our Homes

By A. I. Root

The wages of sin is death.—Romans 6:23.

Remember the sabbath day to keep it holy.—Exodus 20:8.

And the Lord took off their chariot wheels, that they drave them heavily: so that the Egyptians said, Let us flee from the face of Israel; for the Lord fighteth for them against the Egyptians.—Exodus 14:25.

While I write, flying-machines seem to be in the air and in the minds of a great many of our people. I have been predicting for some time that we would soon see them overhead in such numbers that they would not call forth any more attention than the automobiles that are getting to be almost as common, even in country places, as the horse-drawn vehicles. When I announced the coming of electric railways in my boyhood, I was somewhat disappointed because they were so *slow* in getting along; and when I told you five years ago what I saw the Wright brothers do, I felt sure that flying would be a common thing in a year or two; and after its development across the seas about a year ago I said that before snow flew there would be plenty of them all over the United States. Well, we have not seen the snowflakes yet here in Medina; and flying-machines are not going to be as plentiful as I expected, during this year of 1910.

Now to get down to business, or to take up the subject I had in mind, let me remark that as much as three or four weeks ago a project was put on foot to have a lot of aviators attempt a flight from New York to Chicago. The matter was presented to the Wright brothers, and, if I am correct, they promised to enter into the contest. All together there were to be toward a dozen flying-machines. At first the date was fixed for the fore part of the first week in October. As it might take four or five days, it occurred to me in the outset that they would have to start during the fore part of the week to avoid being out over Sunday, especially if they flew only in the day time and not by night. Well, as nearly as I can make out, the event was postponed several times until they were talking about starting on Saturday. I felt sure the Wright brothers would object, as they always have done, to *any* Sunday flying. They would do this out of respect to their old father, who is a minister of the gospel, if for no other reason. Therefore I was not surprised when told that only *four* were going to make the flight, and they were going to start on Saturday afternoon. Later still I was yet more pained to have the papers tell us (without protesting or commenting), that the flight was to begin on *Sunday* afternoon, October 9. I think the Saturday papers informed us further that all had dropped out but one—Eugene Ely—and he was to start alone on Sunday afternoon. Two others with their aeroplanes were to go a piece with him, and see that he got under way all right, without any mishap. I suppose that most of you know from accounts in the papers how it turned out. Here is what I found in the Cleveland *Plain Dealer* in regard to the matter:

HE MAY ARRIVE LATE.

Kissing his wife and assuring her that he would join her at the Hotel Astor, in New York, not later than next Friday noon, Eugene Ely sailed from Chicago in a Curtiss biplane Sunday afternoon.

Then he flew nine miles.

Let us pause a little right here. If I should say that I almost *knew* he would have bad luck if he started on Sunday afternoon some of you would call me superstitious and perhaps fanatical. If you recall the matter, you will remember that once Agrippa told Paul *he* was mad.

Paul answered, "I am not mad, but speak forth the words of truth and soberness." I am sure, friends, if you will listen to me you will agree that *I* speak forth the words of "truth and soberness" in defense of our Christian sabbath. If I am right about it, starting out with a lot of flying-machines on Sunday afternoon is breaking the laws of our land, and I think the officers of the law, if they choose, could forbid such an undertaking; and it is most *certainly* breaking the laws of God. Did you ever think of and admire the wonderful wisdom of the way in which we are told or asked to observe the sabbath—"Remember the sabbath day to keep it holy"?

Now, in the above we are not told just what we *should* do and what we should not do on Sunday. The Pharisees tried that, and had over a hundred rules for it. We can, each one of us, if we desire to obey the great Father above, decide what course of conduct is *holy* and what is not. Please do not understand that I think Sunday particularly different from any other day. People generally, especially good people, have decided on one particular day of the week to be called God's day—a day of rest from all of our duties and cares, and a day to consider especially God's wishes and God's commands to his children.

I am well aware that there is much disposition of late to regard Sunday as a holiday rather than a holy day; and a certain class of people have seemed to think it proper and fitting to select that day for running automobiles, testing flying-machines, etc. When the Gorge Railway was opened some years ago they ran their first cars on Sunday—or, rather, *undertook* to run them on that day—but they had a bad breakdown. I was not surprised, for I rather expected it when the papers announced that the first car was to carry passengers through that gorge on Sunday. Since then various undertakings and enterprises of a similar kind have been started on Sunday. Recently a daring and reckless young man undertook to run the Whirlpool Rapids at Niagara, and took *Sunday* for the feat. He did not lose his life, but came so near it that he was fished out so nearly dead that he had just

life enough left to grab hold of a rope. I do not know whether it taught him a lesson or not. So many awful accidents have happened on Sunday that the daily papers have made comments. They did not suggest that it was the *wrong* thing to do. They only said it seems queer that there should be such an array of fatalities and strange accidents to be chronicled *every Monday morning*. Now, then, for our words of truth and soberness, as Paul expressed it.

With the number of Christian people there now are (sprinkled like "salt") all over the land, it would seem as though anybody, whatever his belief, should have some scruple about shocking the feelings of the best class of people in the world, if nothing more. Out of respect to the ministers, good men and women, especially the old mothers in Israel, any sober and sane man should reflect a little about disturbing the peace and quietness of the ordinary sabbath. Shouldn't every sane and sober man also *consider* the words of our text—"Remember the sabbath day to keep it holy"? Is there any one who has never heard these words, and who does not know when Sunday comes? When I was in Cuba I met a class of people, or whole neighborhoods, who had never been told or else had forgotten when Sunday came. Of course, *they* were excusable; and when they came to buy honey of us on Sunday morning, and had their pitchers and pieces of money, I recommended to our boys letting them have the honey as it was impossible (as they did not speak our language) to explain to them *why* honey was sold only on certain days, or perhaps, rather, why it was *not* sold on *one* certain day.

Now, there is a *reason* why more disasters happen on Sunday than on any other day. In fact, there is a reason for every thing in God's holy word if you will study it. The man or woman, boy or girl, who has no respect at all for the feelings of Christians, and who has no regard for God's holy command—such a one is not a proper person to be trusted where life and death are at stake. The employees on our street-cars object to Sunday work. They would avoid it if they could. They are often tired out because of overwork, and are more likely to forget, and make mistakes.

Within a few miles of Medina is a very pretty lake. During the past forty or fifty years several people have lost their lives in that lake—especially young people, and it has almost *always* happened on Sunday. A young girl, in spite of her parents' protests, went to that lake on Sunday with a crowd of reckless boys and girls. In the same reckless way she went out riding in a boat with several young men. I think one of them had been drinking. She fell out and was allowed to drown when the boat was upset; but the manly (?) young men all got ashore by some means or other. It was her reckless disregard for the advice of older friends, and a disregard, also, for God's commands, that caused her to lose her life. When this matter of Sunday sport came up in our town some time ago the pastor of our church remonstrated with a man who was running a billiard-hall. In answer to his kind and respectful suggestions, the fellow replied, "I would not give a d—— for your Sunday." Now, would such a man, especially one who would not scruple to answer a minister of the gospel in this way—would such a one, I say, be a safe pilot for an automobile, electric car, or a flying-machine? This man Ely seems to have been the only one of about a dozen who was willing to start out on Sunday afternoon on this trip of flying from Chicago to New York. He had plenty of time to put his machine in the most perfect trim, for they had been waiting all the week for favorable weather; but before he had flown even *nine miles* there was something the matter with his carburetor. He came down and got it fixed, and got up in the air again; but just as he left the ground one of the rubber-tired wheels for starting and stopping caught an obstruction and was torn off. After several more delays he got started again, and then something *else* happened. In fact, by some strange fatuity—that is, so some people said—"bad luck" seemed to follow him. By the way, I just saw a suggestion in some of the papers, that, if you want to secure good luck, you should always go half way or more to meet it. Folks who start out on such enterprises on Sunday are certainly *not* going "half way" to meet good luck.

Please do not understand me that I would cut off *all* work or business on Sunday. Jesus told the Pharisees, who were criticising him, that when an ass or an ox or a sheep fell into a pit or well on the sabbath day it was right and proper to help it out, even on that day, as they did. And if a hurricane were to tear down fences so that stock get into the corn, by all means turn out, men, women, and children, and save the stock and the corn. Sometimes it is a little difficult to decide just how *far* we should go in our efforts to save property on Sunday. I have had some experience in my busy life in doing things on Sunday, not because they really *had* to be done, but because I *wanted* to do them. Our friend Christian, in Pilgrim's Progress, got out of the straight and narrow path once on a time. He received several warnings, but failed to heed them. Finally he saw flashes of fire flaming from a great rock over his head. He told "Goodwill" that he was afraid the fire might fall on his head and kill him if he went any further that way. Dear friends, *I* have seen the fire of God's wrath, as I verily believe, flash out from the great cliff above my head. I came back, however, and sought the straight and narrow path once more, asking God to forgive me. These reminders of God's displeasure, when we deliberately break his laws, I think come to all of us.

In our last text we are told that the Lord took off the chariot wheels belonging to the Egyptians. The poor fellows had been forbidden repeatedly to interfere with the Isra-

elites; but they pushed ahead in an *awful* spirt of recklessness. I can imagine their utter dismay when they got into the deep mud. No wonder their chariots "drave heavily." When it was too late they were convinced that "the Lord" did in very truth "fight" for his people; but the floods swallowed them up as a punishment for their transgression.

I realize, while I make this protest in this Home paper, there are multitudes who are against me. In our great cities it seems to be more and more the fashion to have big excursions and every thing else going on, even on God's holy day. On account of a belated train Mrs. Root and I reached New Orleans. once on a time, on Sunday morning. Neither of us will ever forget the shock we experienced to hear bands playing, auctioneers shouting the quality of their wares, and to witness a regular bedlam, or perhaps I might call it "vanity fair." Mrs. Root clung to my arm and said, "O husband! let us hunt up a church and some Christian people, if there are any such, in this awful place." So we joined in the throng that was on the way to the nearest church, for it was about church time, and looked after our baggage later in the day. Things are not so bad in our cities here in the North, but I am afraid affairs are tending that way. Railways, steamboats, and electric cars seem to be doing all in their power to encourage sabbath desecration. A prominent railroad man told me they would be *glad* to give it up. They say, however, the people demand it, and they have to abide by the will of the people. Years ago, as I have told you, the A. I. Root Co. (come to think of it, I believe it was plain A. I. Root then) declared that no Sunday excursion should pass the curve on our ground that connects our two railways. Our position at that time broke up the excursion business in this locality, and it has never been taken up since. It is *not* a very difficult matter, dear friends, to stem the tide of evil when God is on your side. Remember, "Five of you shall chase a hundred, and a hundred of you shall put ten thousand to flight."—Lev. 26:8. Who is there among us who will "dare to be a Daniel" in this needed reform?

AVIATION AT THE CLEVELAND CENTENNIAL.

While I am on the subject of aviation I have something further to say that does not particularly belong to starting out with flying-machines on Sunday. Through the daily papers and other means, Cuyahoga County's centennial, lasting from October 10th to the 15th, was very widely advertised all over this region, and particularly the aviation exhibitions. The following clippings from the *Plain Dealer* of Oct. 15 tell us something about it:

About 200 policemen guarded all entrances to the field yesterday; and any one who could think up a sufficiently persuasive argument to get by the bluecoats was entitled to admission without further parley. Employees of the railroad were about the only ones who saw the flights without going through the formality of buying a ticket.

Four machines will be ready for flight. Altitude, speed, climbing, and bomb-throwing contests will be on the program, which opens at 1 o'clock.

To-day's program will be the most interesting one of the entire meet. Altitude flights, glides from the clouds, speed contests, and bomb-throwing experiments will be staged. Post, Mars, McCurdy, and Ely will be the contesting aviators.

Fair weather is promised, and it is expected that fully 30,000 persons will attend the meet. Saturday is the last day.

These exhibitions of flight were given in Lakeside Park; but, unlike the exhibitions I described on p. 675, last issue, where thousands could view the spectacle, high or low, rich or poor, black or white, without money and without price, this exhibition was guarded from the public at large by means of canvas fences so high that no one could well look over them. As it extended clear around Lakeside Park it must have cost quite a sum of money. Then the first one of the clippings tells us that *200 policemen* were employed to keep the small boys who could not raise half a dollar from crawling under, and getting a glimpse of this wonderful flying-machine. At the gateway we were further informed that the fifty cents entitled us to only a seat on the side-hill. If we wanted to go down near the machines and get a view of their construction, it would cost another half a dollar. But even after we had paid the fifty cents, or had even got inside, we were not furnished a program. The program agents were exceedingly busy all during the entertainment in holding said program under the noses of the people, and telling them they could not understand the flying-machine unless they had a program. The program cost ten cents. One of the clippings above tells us that 30,000 people were expected to pay fifty cents each, or a dollar each, and then a dime more for a program. Well, perhaps I would not have said any thing about the ten cents for the program were it not for the clips all the way through it at the Wright brothers. Here is a sample of them:

It takes the combined efforts of a dozen men to haul the Wright flyer around on its cumbersome, wide-tired wheels and adjust it on the starting-rail before it is as nearly ready for a flight as is the Curtiss machine at all times.

The Wrights are content, on the other hand, with a machine which trundles along at forty miles an hour, and which must either return to its starting-rail before flying again, or else have the starting-rail brought to it.

Let us stop and consider a minute. The advertisement says there were to be four machines on the ground, and seven different aviators were advertised to make flights. We got our seats about one o'clock — the time the flights were advertised to begin. After an hour or more, two machines were run out of the tent. After trying one of the two for about half an hour, and failing utterly to make it get off the ground, they confined their attention to the one remaining machine. During the afternoon this one machine made four flights of three to five minutes each. There were no trials for duration, no trials for altitude, no speed contests, no flights with passengers, and no feats to compare with the ones the Wright

students made on the afternoon I visited them. In fact, the whole afternoon seemed to be spent in fussing with the machines to make them go. After it got so near dark that it was difficult to see, I am told that a machine made a flight over the lake; and it seemed to me that the four brief flights I witnessed were purposely kept near the ground so people outside of the canvas inclosure would be unable to get a glimpse of them. I suppose the seats on the side-hill would hold, say, 20,000 persons; but I felt glad to notice that only a small part of the seats were occupied. Huber said that, the day before, the seats were nearly all filled; but instead of following the advertised program, *one machine* made quite a few brief flights of four or five minutes each. It certainly *was* a grand sight, and worth going miles to see, especially when that one machine ran along the smooth ground and gradually climbed up into the air. But what a poor tribute, to put it mildly, these people were paying (I do not know exactly who was responsible for it) to the Wright brothers who first demonstrated to the world that a machine could be *made* to climb up into the air without any balloon at all—what a *poor tribute*, I say, to pay, to have a man around peddling these programs containing such matter as I have quoted; yet the vender of those leaflets actually pushed them under our noses while the machines were leaving the ground. He got in my way so many times I was sorely tempted to push him over down hill, especially after reading what they said about the Wrights.

Let us now take that up for a minute. It *never* took a dozen men to haul around the Wright flyer, even in their first experiments. I know, for I was there; and at the very time this statement was made, it did not take any men (or boys either) to get the Wright flyers up to the starting-place. The aviator just starts his engine, and the propeller which carries it over the ground or through the air takes it up to the starting-point, even if it is *up hill*. The Curtiss crowd, or whoever it was, kept that crowd of 30,000 people, more or less, waiting while a couple of men *ran themselves out of breath* to help get the machine back to the tent for more gasoline. Why in the world he did not put on his propellers and *run* back I could never tell. The Wright brothers have not used a starting-rail this season, and perhaps not last season nor the one before that. Several times they have been asked or have been offered money to go into the "show business;" but they have always declined, and God will honor them for it, even if the people do not; and I believe, too, they have refused to *sell* machines to those who wanted to go into the "show business." I have been informed on good authority that Glenn H. Curtiss visited the Wright brothers before he made a flying-machine at all. They extended to him every courtesy, and permitted him to look their machines all over at his leisure; but it would seem that, as soon as he left, he copied their machine as near as he could without too flagrant an infringement on their patents. At present I know nothing about the suit for infringement. God forbid that the "graft business" or any thing like it should be permitted to go any further in the field of aviation. Flying-machines are a gift from God to his children of this new century; and it ill becomes us to use this gift for taking the money from our hard-working people, especially taking the money and *then* not furnishing the entertainment that was promised and paraded through all the papers. May be I have found fault enough for one time; but right here I must put in another protest. Many of the aviators (but not the Wright brothers, thank God) are users of cigarettes; and when they alight from a flight the first thing they do is to fish a cigarette out of their pocket and light it while thousands of country boys and Sunday-school children too are looking on. What an example to set before the rising generation!

Later.—This is Monday, Oct. 17. It occurs to me that perhaps the Cleveland officials, or whoever is responsible, had a few twinges of conscience about taking the people's money during the week and returning them so poor an equivalent; so they decided to give a free exhibition on Sunday. This morning's paper tells us:

When J. A. C. McCurdy had reached an altitude of about 3300 feet yesterday afternoon in his trial for altitude, Robertson's band struck up "Nearer, My God, to Thee."

Just as soon as I read the above I wondered if the thoughts suggested by the singing of that beautiful hymn did not send the cold chills down *somebody's* back. I suppose the thought was that being high up in the air *was* getting nearer to God, especially in that great city of about 2000 saloons; and I am right glad to know there was one aviator who recognized the awful inconsistency, for we read:

Aviator Mars, who has been doing daredevil stunts all his life, is very superstitious. He refused to fly while the band was playing a doleful melody.

God bless brother Mars. I hope we may all have a little more of that "superstition," especially when Sunday aviation is going on. It seems, however, that some of the flying-machine speculators felt a little sore because the law would not permit them to charge admission into that inclosure on Sunday. See the following:

If the regular rates of admission had been paid at the gate of the aviation field yesterday there would have been more than $100,000 in the box office.

Later.—I notice by the Cleveland *Plain Dealer* that they have just had *another* aviation on Sunday (or tried to) at Belmont Park, Long Island. I will make just two clippings from the account. The first is a sentence from the opening of a long article:

There were two smash-ups, Oct. 23, no flights, and 7500 disappointed spectators at the second day of the international aviation meet at Belmont Park, Long Island.

And here is the concluding paragraph:

The Wright team, Hoxsey, Brookins, and Johnstone, were all willing and anxious to fly; but Wilbur Wright allows none of his machines to go out

on Sunday; and, although the management pleaded with him over the telephone, he remained obdurate. At 4 o'clock the events for the day were definitely called off.

Please notice that word "obdurate." One can not help wondering what sort of bringing-up some of the newspaper reporters have had. Instead of the word "obdurate" I would suggest the sentiment implied in an old hymn:

Oh! who is there among us, the true and the tried,
Who'll stand by his colors—who's on the Lord's side?

A sabbath well spent brings a week of content,
And strength for the work of the morrow;
But a sabbath profaned, whatever is gained,
Is a sure forerunner of sorrow.

THE EVERGLADES OF SOUTHERN FLORIDA.

Dear Mr. Root:—Your editorial on Florida indicates that you are in search of information about the draining of the Everglades. The State formerly owned all of the great swamp, but sold a large part of it to land companies on an agreement to drain it—the idea being that the work of development done by these companies would make what the State kept more valuable than the whole had been. Under this agreement four dredges set to work, one in the Caloosahatchee River, one in the Miami River, and two at Ft. Lauderdale. A large amount of work was done with them. For instance, the machine that went up the river (the Caloosahatchee) cut a canal from Ft. Thompson through Lake Flirt into Lake Okeechobee, sixty feet wide and and ten feet deep. This is large enough for the largest boats using this river. A few months ago, in order to hasten things the State advertised for bids for the cutting of 183 miles of main canals and over 300 miles of laterals. The Southern Dredging Co., of Baltimore, were the successful bidders. They took over the four State dredges, and are sending three more into the lake. One of them has just passed up the stream, and this has stimulated me to write. It is a huge suction machine that has been at work in the harbor at Galveston. Its long voyage across the Gulf of Mexico and up this river is nearing a successful end, and it will soon be at work in the south canal. Another, a dipper dredge, is about a week behind it, and will ere long be cutting its way from the lake to the ocean. When these machines get through there will be four or more navigable canals as outlets to the Everglades, and we can then cross the lower end of the peninsula by boat, and ship our truck and fruit to New York by an all-water route. Now the East Coast, though only a few miles distant, can be reached only by a long railroad journey to Sanford, 250 miles north, and then south via the Flagler lines.

One of your subscribers wrote the other day from Oklahoma, saying that he bought land near Ft. Lauderdale, and asked the character and quality. If he had sent a stamp for a reply I could only have said that this particular tract is unknown to me, being on the other side of an impenetrable swamp. His purchase may be in the Atlantic or it may be poor sand on the beach, though the probability is that it is part of the Everglades, and therefore good soil. No man should buy unless he has seen the land and is sure he is getting what he has seen.

The soil of the Everglades, like all swamp land, is very fine. If that were all that needed consideration, its purchasers would be very fortunate. But (and it is a big *but*) in this case it will take several years to get these big ditches or canals to working, and then only a beginning will have been made. Thousands of lesser drains must go in, and the expense of these will fall on the land-owner. They will be a first-class investment for him, but they will take time. It will be several years before any thing like the larger part of the Glades will be dry and ready for cultivation.

There are two pests in that region, or, rather, there is one pest that preys on two different classes and makes the value of these lands problematical. The word insects covers the whole thing. They make life miserable for man and beast, and they eat up the crops. To the first class belong mosquitoes, gnats, and horseflies. The merciful man who cares for his beast is perhaps distressed more by the last one than the two first; but it is hard to say which is the greater trial. To this add the other class that some years devour every green thing, and you can see why I am in doubt as to the desirability of owning these exceedingly rich lands.

Many people have gone to see the lands, and have come away perfectly enthused over their richness. The reports I have had from them are very glowing; but does the prospective buyer always see all there is in the proposition before him? Land agents are not, many of them, rascals. They are sometimes honestly mistaken, and their enthusiasm is more to blame than their cupidity. Let's give them the same charity we would extend to all men. But that is no reason why a man should buy in a new country without careful study of the facts in the case.

It seems to me I have not written just what I wanted to; therefore I'll restate a few things. The State is pushing the drainage of the Everglades. It will take a long time, no matter how vigorously the work is pushed, to complete it. The land is wonderfully fertile. It will grow big crops of sugarcane and truck. Many buyers will be disappointed because they do not understand the soil, the climate, and the conditions, and give up before they have learned how to get a living out of their farms. Others will have insufficient capital, and be compelled to quit. Most of these lands are being bought by people who will never get to them. They will fail to carry out their plans. All these tracts will soon be on the market, and the price will drop. The man who buys as a speculation will have to hold for years before he will get an advanced price. The insect pest will be unendurable to many would-be settlers. On the other hand, there will be a time when that whole section will be a great garden, yielding like the much-fabled valley of the Nile.

May I, as I close, call attention to the error of your friend who informed you that the government land in this State was all away back and inaccessible? That is true as a general proposition, but, like all general propositions, it breaks down when applied to particular cases. The homesteads near Denaud are close to the river, and transportation is good. That is why I came here. My 160 acres is a mile from town, and a good river on which ply several daily lines of boats. Should any of your readers question this, let them come and see for themselves. I like the land, the climate, the fruits, and the prospect.

Denaud, Fla., Oct. 3. FRANK M. BALDWIN.

Many thanks, friend B., for your frank and honest statement; and I hope those of our readers who are thinking of investing in land in Florida without going to see it will read your article several times over. Now, although you do not say so, I want to suggest that the mosquitoes will probably disappear to a considerable extent as civilization comes in—at least if the people avail themselves of the modern methods of heading them off. There is a United States bulletin, if not two or three of them, on this very subject; and most other insect pests may be considered "preventable diseases" if they are promptly taken in hand and followed up.

"THE TRUTH" ABOUT BRADENTOWN AND MANATEE CO., FLA.

Dear Mr. Root:—I have been very busy for some time; and when the last copy of GLEANINGS came I did not get hold of it as usual, so only to-day I found Mr. E. M. Graves' article about Florida. It has so many errors that I can not resist saying a few words in reply. Mr. Graves came to Florida at about the age of 70; and if any man expects to go to a new country at that age and start life over again and make money the first year, he is expecting too much.

He says that a man has "slim chances for making money here." From 1884 to 1898 I lived in the West, and came to Florida at that time. I am

sure I never lived anywhere where more people made a fortune from nothing in ten years than here. I can name them by the score. By a fortune I do not mean great wealth, of course, but a competence, say from $10,000 to $35,000.

Mr. Graves says that "very few of the truck-growers got *any thing* (italics mine) out of their crops last season." I wonder where he got any such information. I rented 4½ acres of celery land from a neighbor, and he furnished the fertilizer, land, celery-boards, water, etc., and I did all the work and gave him half the net proceeds. His share was over $100 an acre. I did much better on my home farm, and many celery-growers did far better than I did, although quite a few of them did lose money. Many of these latter, however, did not lose their own money, but the other fellow's, generally advanced by the commission men. I do not know of a single man who had any capital, and who has had some experience, who did not make better than expenses. The truckers all followed celery with other crops without fertilizers, and produced tomatoes, Irish potatoes, etc., as bountifully as I have ever seen anywhere. One neighbor raised 250 bushels of potatoes to the acre—the best crop I ever saw, north or south. He told me this week that he got $1.00 a bushel for all of them.

Year before last the truckers simply coined money. I know of many colored men who did not have any thing when the season opened, but who cleared over $1000 on celery alone, all the money to make their crops having been advanced by commission men, which had to be paid back first.

Bradentown is the most prosperous that it has been for eleven years, the time I have been here. We are having a steady, healthy growth. Money is the most plentiful that I have ever known. The Bank of Manatee has nearly $300,000 deposits, and the Bank of Bradentown, a newer bank, over $100,000. Compare this with other towns of 2000 population, and see if we are short of money. A gentleman who has loaned money here for 25 years told me the other day that many of his clients wanted to pay up their loans; that the people were getting too prosperous to need money as they have in the past. This is a new country, and rates of interest are high, mostly 10 per cent, and they were just as high when I was a boy in Illinois and Kansas twenty years ago.

Mr. Graves says that there is only one hard road at Bradentown. That road is four miles long, and the others that connect with it on many streets and roads into the country make them aggregate about ten miles, and the county has just bonded for $250,000, and expects to be able to build with this money about 100 miles more. Four of our county towns have bonded, and expect to connect with the main roads.

What Mr. Graves says about Green Cove Springs is doubtless true, and the same could be said of many other places in Florida. I came from such a place myself; and because of the cold there I emigrated to Bradentown, but we could not get artesian wells there, and it was too cold for winter gardens.

I am always advising men who are doing well in the North, and who with their families are well, not to give up a sure thing for any thing else anywhere; but the truth will hurt no one.

Bradentown, Fla., Oct. 8, 1910. E. B. ROOD.

SOMETHING FROM A CHICKEN MAN AND GARDENER.

Mr. A. I. Root:—I do not think that your writings are too flowery concerning Florida. As you know, I have been here winter and summer for five years. I came here from New York (as good a State as there is in the Union), but would not go back to stay for any thing; and I am not the only one either. But, as you know, there are plenty of people who come here expecting to get rich quick. Some of them seem to think that they can take their little savings of twenty or thirty years of hard work in the North and come down here and sow it broadcast, and reap from ten to a hundred fold the first year, without stopping to consider that this country is new and mostly undeveloped, and that conditions are materially different here both in regard to soil and climate, also time and manner of marketing produce, etc. There are so many things to learn that I don't feel as conceited now as when I first came here, concerning the way things ought to be done; but one thing I feel sure of, and that is that there is a great deal of money wasted on fertilizers here. We have, as you know, many acres of very rich land in Manatee Co. that are as yet untouched by plow or ax; and all it needs is to be put in proper shape to produce good crops without much commercial fertilizer; but this can not be done in one or two years. It takes time and much hard work, of course. There are large tracts of poor land here, and some practically worthless; but I believe that a majority of the lands here can be brought to a state of cultivation in a few years that will pay well.

Of course, friend Graves finds some discouraging things, or, rather, disagreeable things, about traveling over these sandy woods and roads, and fighting mosquitoes at the same time; but these are things that are fast improving as the country is settled. Although we have not many miles of hard road outside the city we expect more soon.

As for mosquitoes, they *are* bad out in the woods or thick hummocks for about two months or during the rainy season; but I can testify that they are no worse in Bradentown than in many places in New York; and, in fact, not as bad. There are plenty of houses here that are not screened at all, and good ones too. Flies are not nearly as numerous here as where we came from; and climate—well, I guess there is none better. If Mr. G. is so disgusted with conditions here, why is he building up his apiary and trying to buy those of which he had charge this year? He doesn't say that *bee-keeping* does not pay here.

He cites some instances in which truckers lost money last year. We do not dispute this, but we can cite plenty who did clear money last year, poor as the prices were; and I am reliably informed of one man who banked $6000 from five acres of celery two years ago, and another man who netted $5000 from eleven acres of grape fruit the same year; and still there are others who say that these things do not pay. You know, Mr. Root, something of what the Atwood Grove pays. This is said to be the largest solid grape-fruit grove in the world; and I believe we would be safe in estimating its average proceeds for several years at $500 per acre. It may be far in excess of this.

With regard to building we all know that Bradentown is steadily growing—not a mushroom growth, but very substantial in its nature. I can think of about 15 new buildings started since last April, and built during the summer, when there is usually not much doing here. But this is a lamentable fact when there is such a demand for houses. A *hundred* are needed right now, and I heard a reliable man had said that he could rent a thousand cottages here this winter. I can't see why people are so slow to build except that they are using their money to better advantage.

About the carpenters' wages, I think you are a little high. I understand that the schedule is 40 cts. an hour for 8 hours, and brick-layers 45 cts. per hour; and I don't think there is an idle one of either kind at present.

Well, I must close with a word for the Florida summer fruits. I think they are grand, especially the mangoes and Avocado pears.

Bradentown, Fla., Oct. 8. J. E. STANTON.

GARDENING DURING THE WINTER TIME IN FLORIDA; SOME SUGGESTIONS FROM THE DIRECTOR OF THE FLORIDA EXPERIMENT STATION,

By way of preface, let me say that my good friend, the editor of the *Rural New-Yorker*, owns a piece of land near mine, in Putnam Co.; and he is arranging to have it occupied this winter by some members of his family; and he asked me if I could suggest a good book applicable to Florida gardening in winter. I submitted the question to Prof. Rolfs, and he replies as below:

UNIVERSITY OF FLORIDA,
AGRICULTURAL EXPERIMENT STATION,
Gainesville, August 31, 1910.

Dear Mr. Root:—I may say in this connection that at the present time there is no book published that would be of direct service to the young man. Florida, as you know, is so old and yet so new. The

modern Florida is just awakening, and the population is rather sparse. For the most part, those of us who are here have no difficulty in making ends meet, and, on the other hand, no difficulty in spending all the money that we actually have, and sometimes that which is in sight; consequently there is very little opportunity for printing books at private expense. The sum total of what the State does in this direction seems to be rather weak and inefficient: still, when we compare it with even such rich States as Ohio we find that we are probably doing more per capita, at least more per capita of the *white* population, than even Ohio, and necessarily we are not quite so well fixed to do this work.

If the land you have at Huntington is good land, it is quite probable that at the present time you can sell it for more than it would have brought at any time in the last fifteen years. A large amount of land is being bought in the State, but mostly by small speculators, many of whom are likely to lose practically all that they put into it.

I will inclose you a copy of my letter to Mr. Collingwood, editor of *Rural New-Yorker*.

P. H. ROLFS, Director.

Mr. H. W. Collingwood:—Your letter of August 23 had to lie on my desk until I could return from some farmers' institute work. At the present time I do not know of any book that would be of direct value to one of your boys. Of course, there are many books that are of value in an indirect way; but I judge from your letter, and also from one written by you to Mr. A. I. Root, which he has forwarded to me with the request that I answer it, that the boy needs direct information rather than suggestion.

In Putnam Co. I think it will be safe to plant at once rutabagas, turnips, collards, cabbage, Brussels sprouts, onion-sets, lettuce, radishes, mustard, dwarf Essex rape, beets, carrots, spinach, and kale. Now, this is a very large list; but you can select from this those that would most nearly meet your needs. The rutabagas are likely to fail; still, the chances of succeeding are sufficiently good to warrant trying them. Turnips are pretty sure to give you a nice crop. It will be best to plant some of the very early varieties, and also some of the later-ripening varieties, so as to have a succession of them. Collards you will hardly want to plant unless you want it for poultry and cattle feed. Cabbage should be set out. It is quite probable you can get good plants from T. K. Godbey, Waldo, Florida. I do not know whether it would be practicable to get any plants of Brussels sprouts or not. Possibly Mr. Godbey may have a few, but I doubt it. Among the onions it will be best to get the Bermuda sets. In getting these sets it will be advisable to grade them into two or three sizes, planting the larger ones separate from the smaller. This then will relieve the bed in which the larger ones are planted while the smaller ones are coming into use. Lettuce-plants can probably be obtained at Palatka. It will probably not be advisable to get them from any distance, as lettuce-plants do not take kindly to shipping, and then the plants can be raised so quickly from the seed-bed.

In the case of mustard, it will be more desirable to make repeated sowings—that is, if the family is fond of the vegetable. When it gets too hard for table use, it can, of course, be used for feeding stock on the farm. Dwarf Essex rape should be sown, by all means. It will be best to sow considerably more than can be used. Under favorable circumstances you will get a good yield of this vegetable. All farm stock is fond of it, and it makes one of the best greens for family use. When it is tender and succulent it approaches cabbage in flavor and taste. In the case of beets it will be best to sow early-maturing varieties, and also varieties that are a little longer in maturing, or else make repeated sowings of the early-maturing varieties. The question as to whether you should sow carrots or not will all depend upon whether the family is fond of this vegetable. Spinach is so largely used that there is hardly any need of putting a question with this. It is not planted extensively in Florida, because it is hardy enough to grow further north, and then we have so many other plants that give us greens during the winter that there is very little local demand.

In addition to the vegetables that I have named above I would urge you strongly to put out a nice patch of Klondike strawberries. It need not be a large plot. My bed last year was contained in an area of about 20x25 feet. It gave us ripe strawberries from January to June. During a large part of the season we had more strawberries than the family of four could use. This small bed contained about 800 plants. The soil, of course, was in perfect condition, and I had plenty of water for the dry weather. The plants were set out in October, and, as stated above, the first strawberries were ripe in January. At Gainesville we had some very cold weather last year—in fact, the coldest that we have had in about fifteen years. The plants, however, were covered with a single thickness of unbleached domestic. While this did not protect all of the bloom during the very cold weather, it protected the berries that had set.

One word in regard to fertilizer: As you are living in New Jersey, you are doubtless fully up on the fertilizer question. We believe here that the organic ammonias are quite preferable for the general formula, and that the nitrate of soda is needed for reinforcing this to give the plants some nitrogen that is immediately available.

It is quite probable that you have some arrangements whereby this garden can be irrigated. If this is the case you will find that it will require only a small area to supply all the vegetables that can be used. If there is no way of irrigating the garden cheaply, a great many disappointments are likely to occur, especially if October and November turn out to be dry months.

P. H. ROLFS, Director.

Poultry Department

By A. I. ROOT

ROOFLESS POULTRY-HOUSES FOR FLORIDA AND OTHER SOUTHERN CLIMES, ETC.

We have wireless telegraphy, lampless brooders for chickens, and why *not* have "roofless" poultry-houses, especially down south? Our readers may remember we have had several articles already from Florida people on this subject; therefore we can afford to read carefully and attentively the following from our old and able friend Irving Keck:

Dear Bro. Root:—I have been greatly interested of late in the Home papers. I am glad to see your stand on the land games that are being worked on those who are not familiar with conditions. If men will come to Florida, spend a year working for some native who has made a success, he will know a lot about Florida conditions that no land agent can tell him, and he will know whether he wants to sacrifice a home north, and come and join with us here. As you know, I have been here over 25 years, and expect to end my days here; but I do not like to see folks paying big prices for land that will not sprout peas. There is good land in Florida, and there is lots about as poor as can be found, and often the two kinds are *not ten rods apart.*

Now to your chicken question. I will give the experience of a neighbor, call him Smith. That is not his name, and I have no permission to quote him, so I will call him Smith. Smith was born in South Carolina; when a young man he went to Montana and officiated as cowboy and bronco-buster till pneumonia got him two or three times, when the doctors hustled him to a warmer climate and gave him six months to make his will and get things in shape. As he had spent his money on those doctors it did not take long to "shape" his affairs, and a will was something he had always had; so a dozen years ago he landed in Florida about ten miles from me. He looked over the situation, and said, "May be I'll fool the doctors yet," and went to work with vegetables, oranges, and chickens. Well, two years ago he sold one of his places for *twenty thousand dollars*, and has a place about two miles from me that I am sure will take $5000 to buy, and he is alive, and sometimes very *much* alive, yet. Now for some of the things he has worked out under Florida conditions, for those who are in the chicken business in Florida know that lice, mites, and stick-tights are

"always with us" with roup, sorehead, pip, snakes, hawks, owls, possums, skunks, cats, rats, boys, and darkies thrown in to make things spicy and entertaining, and to give variety. Smith lays this down as a foundation fact never to be lost sight of for a minute—*keep your chickens from under sheds, stables, or a shelter of any kind;* and, next in importance, do not let them scratch in their droppings—the *two things* he considers absolutely essential.

His methods may interest you. In a month now he will set, say, half a dozen hens. When they hatch he will put coops along the timber adjoining the creek, and on the back of each little chicken's head will be a spot of syrup with crystals of strychnine crushed and mixed in the syrup. If there is not much rain this syrup will be there for a month. If the chicks are out in the wet grass, then it will have to be renewed. Whenever a hawk gets one of these chickens it means a dead hawk, sure. This is preparatory to setting the incubators going, say Jan. 1; and if a possum or polecat gets one of these little fellows, it means one less to prey on the main crop of chickens. When the chickens come by the hundreds they are put in brooders, and sheltered in movable pens, so as to be on fresh ground every few days; then, wheat, oats, rye, rape, and such crops are kept coming all the time so as to have an abundance of green feed. When they are feathered out, the cockerels, except those reserved for breeders, are separated, and pushed for all they are worth, and sold as broilers at Tampa mainly.

The pullets are put in coops about 6x10, boarded 6 ft. high on the north and west to break the cold winds; wire netting on the east and south to give the early sun, and ventilation; and a wire netting for a roof. The only reason for this is that owls and the colored brother are not so likely to have fried chicken. Say 25 pullets are put to each of these colony houses, shut up for a week; after that they will always go to their own house. An opening is left on the north, say 6x12 inches, on a level with the roosts, and a board projects, say, 18 inches. If a possum comes along he does not see why he can not get through the wire netting, walks around the house, but never sees the opening above his head. In the afternoon a board long enough to make an easy incline is placed, one end on the ground, the other on this projecting board, and the chickens go to bed without any further attention except to throw the incline down so the possums can't use it, and in the morning they need no attention, for they simply come out on this projecting board and go to the grove and feed.

Two roosts are in each house with 24-inch wire netting on the inside, and the same right under the roosts. The droppings fall through, and are collected every few days; and the houses are not so heavy but they can be handled and moved if desirable. They are placed in the orange-grove, and in feeding he manages so the droppings are scattered, and the fertilizer question is solved for him.

The grove is allowed to grow up in weeds, and the trees and weeds furnish shelter from the sun, rains, and hawks. As he said, a White Leghorn in a hard rain will stand under an orange-tree, and it will straighten itself till it is not much thicker than a shingle, and the rain does not hurt it.

For nests, he has them placed side by side, about 50 of them, say 3 ft. from the ground, with a shed roof over them, say 3 ft. wide, highest in front, to shelter the hens from the sun, and to keep a shower from staining the eggs. Porcelain nest-eggs are used, and eggs gathered every day packed in 12-doz. cases, and shipped to Tampa. His instructions to the man who handles his eggs at Tampa are: "If a man comes in and claims he found a stale egg in one of my cases, give him the case and the eggs; don't take a cent for them; but never, under any circumstances, sell that man another egg, for he has lied, and I don't want to deal with that kind of a man."

I said, "Suppose a hen steals a nest."

"Those eggs always go to the kitchen; and we settle right *here* whether they are stale or not, so I absolutely *know* that every egg that goes into a case has been laid that day."

He says if he were physically able he would grow all his own feed—corn, oats, rye, millet, sorghum, Kafir corn, rice, etc.; but he does not want to keep a hired hand, has no boys of his own, and he and the wife do the work. The nests are made of pine straw and tobacco-stems. The pine straw is renewed every week; the old straw is buried.

Well, as to results, last spring he hatched 1500 chickens; has now between 600 and 700 hens beginning to lay, and has not had *a sick chicken.*

He feeds once a day all they will eat that day, and keeps dry mash before them in hoppers. I said, "What is the result financially?"

His reply was, "Mr. Keck, my hens are the best-paying investment I have."

So I had to draw my own conclusions; but an invalid who, in a dozen years, can clean up $25,000 has *some* things that are making money. Now as you have said, it is the man. Others will tell you, "Chickens eat their heads off," and right on this place he had a renter, before he sold his other grove, who kept chickens and had to buy eggs and chickens for his own table; and the place was "seeded down" to all sorts of vermin, but they surely are not there now.

I hope I have not wearied you; but this is the work of a practical man who started in a small way and has gradually grown to a good paying profitable business; and if, through you, it will be helpful to others trying Florida conditions I will have been repaid.

Mrs. K. and I had hoped to meet you and the good wife last winter, but did not see how we could both leave at once.

I have read Terry's health-book with great interest. I loaned it to a lady friend who was in a desperate condition. I told her if she was willing to pay the price in self-denial I believed there was help for her. She read and reread, again and again, and said she was willing, and she is now the marvel of her friends. I have been looking for you to get astride the "Baccali Bulgaricus" and apply whip and spur. I am sure you have ridden less worthy hobbies. It is the germ that prevents auto intoxication. The Battle Creek people offer it under the trade name of "yougart." I believe you would find it of great help to you. It surely has done wonders for me. It is Micknekoff's lactic-acid ferment, and it prevents the formation of ptomain poisons in the colon and from what I know of your case, *there* is the foundation of your troubles.

Bowling Green, Fla., Sept. 30. IRVING KECK.

Friend Keck, we are greatly rejoiced to know that "brother Smith" has succeeded in fighting off the great white plague; but the question may be asked whether it was the genial Florida climate or the "chicken" business. Perhaps it was a combination of the two. There is a good moral to it, any way. The plan for applying strychnine is indeed a novel one; but I think I should prefer a fence with one-inch netting, for the lower two feet, to strychnine. Perhaps both would be a good thing. His plan of letting the chickens get out of and into the poultry-house without permitting night prowlers to get in is also ingenious. Since you mention it, I am ashamed to say I never thought of it before. We have always permitted our chickens to scratch over their own droppings. In fact, I supposed that was a shrewd invention of mine, and with very small chicks, and plenty of chaff or shredded alfalfa for litter, I hardly think the droppings can do any harm. But I will proceed to test your suggestion. The fact that he and his wife do all the work without any hired help is an item of great importance just now when labor is so high. I have felt sure all along that chickens could be so managed, even in Florida, that you need not have, as you state it, "a sick chicken." Amen to your remarks in regard to self-denial in connection with Terry's teachings.

I like your paper very much. It is the first paper I have seen that would go for all the humbugs and systems. I have tried the most of them.

Ashtabula, Ohio, June 27. RICHARD OSTROM.